

# JVC

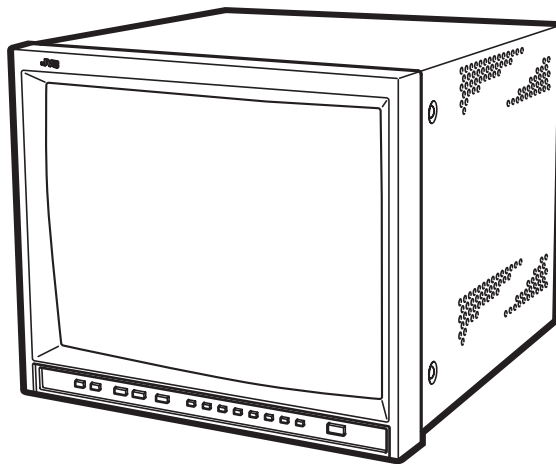
## SERVICE MANUAL

COLOR VIDEO MONITOR

### TM-H150CG/E, TM-H150CG/U

BASIC CHASSIS

S1



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## SPECIFICATION

Item		Content
Dimensions (W × H × D)		36cm×31cm 41.8cm (14-1/4" ×12-1/4" ×16-1/2")
Mass		16kg (35.2lbs)
Color System		PAL / NTSC 3.58
Scanning Frequency		H: 15.734 kHz (NTSC), 15.625 kHz (PAL) V: 59.94 Hz (NTSC), 50Hz (PAL)
Power Requirements		AC 220V-240V, 50Hz/60Hz [TM-H150CG/E] AC 120V, 50Hz/60Hz [TM-H150CG/U]
High Voltage		23.7kV~26.3kV [at zero beam current]
Power Consumption		0.8A [TM-H150CG/E] 1.2A [TM-H150CG/U]
Operation Temperature		5°C ~40°C (41°F ~104°F)
Operation Humidity		20%~80% (non-condensing)
Horizontal Resolution		750TV line or more
Picture Tube		15inch square type, in-line gun, trio-dot type, dot pitch 0.27mm
Effective Screen Size		35.6cm (Diagonal) / 28.55cm×21.4cm (W×H) (14" / 11-3/16" ×8-3/8" )
High Voltage		23.7kV~26.3kV [at zero beam current]
Audio Power Output		1W (Monaural)
Speaker		8cm round × 1, 8Ω
Input / Output Terminals	VIDEO A	Composite video : 1V(p-p), 75Ω, negative sync, BNC connector×2 [Bridge connection possible with automatic termination]
	VIDEO B	Composite video : 1V(p-p), 75Ω, negative sync, BNC connector×2 [Bridge connection possible with automatic termination]
		Y/C:Mini-Din 4-pin connector × 2 [Bridge connection possible with automatic termination] Y:1V(p-p), 75 Ω C:[NTSC] burst 0.286V(p-p), 75 Ω [PAL] burst 0.3V(p-p), 75 Ω
	AUDIO A	500mV(rms), high impedance, RCA pin jack×2 [Bridge connection possible]
	AUDIO B	500mV(rms), high impedance, RCA pin jack×2 [Bridge connection possible]
Remote Control Input		D-sub 15pin (3row) connector×1 [MAKE or TRIGGER can be switched in MENU]
Card Slot (option)		COMPONENT / RGB input card (IF-C01COMG available) SDI input card (IF-C01SDG, IF-C21SDG, IF-C51SDG available)

Design & specifications are subject to change without notice.

# SECTION 1

## PRECAUTION

### 1.1 SAFETY PRECAUTIONS [EXCEPT FOR US and UK]

- (1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (  $\Delta$  ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- (4) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
Some model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : (  $\perp$  ) side GND, the ISOLATED (NEUTRAL) : (  $\equiv$  ) side GND and EARTH : (  $\oplus$  ) side GND.  
Don't short between the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND and never measure the LIVE side GND and ISOLATED (NEUTRAL) side GND or EARTH side GND at the same time with a measuring apparatus (oscilloscope etc.). If above note will not be kept, a fuse or any parts will be broken.
- (5) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- (6) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- (7) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.

- (8) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

#### (9) Isolation Check (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

##### a) Dielectric Strength Test

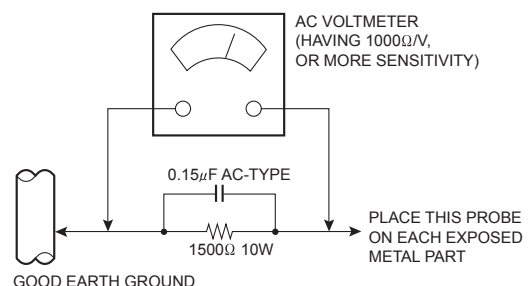
The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second. ( . . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.) This method of test requires a test equipment not generally found in the service trade.

##### b) Leakage Current Check


Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

##### Alternate Check Method

Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 $\Omega$  per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.). However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



## 1.2 SAFETY PRECAUTIONS [FOR UK]

- (1) The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessary be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (  ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the Parts List of Service Manual may cause shock, fire, or other hazards.
- (4) The leads in the products are routed and dressed with ties, clamps, tubing's, barriers and the like to be separated from live parts, high temperature parts, moving parts and / or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.

### WARNING

- (1) The equipment has been designed and manufactured to meet international safety standards.
- (2) It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
- (3) Repairs must be made in accordance with the relevant safety standards.
- (4) It is essential that safety critical components are replaced by approved parts.
- (5) If mains voltage selector is provided, check setting for local voltage.

### 1.3 SAFETY PRECAUTIONS [FOR US]

- (1) The design of this product contains special hardware, many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.
- (2) Alterations of the design or circuitry of the products should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
- (3) Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. **Electrical components having such features are identified by shading on the schematics and by (  $\Delta$  ) on the parts list in Service manual.** The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list of Service manual may cause shock, fire, or other hazards.
- (4) **Use isolation transformer when hot chassis.**  
The chassis and any sub-chassis contained in some products are connected to one side of the AC power line. An isolation transformer of adequate capacity should be inserted between the product and the AC power supply point while performing any service on some products when the HOT chassis is exposed.
- (5) **Don't short between the LIVE side ground and ISOLATED (NEUTRAL) side ground or EARTH side ground when repairing.**  
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- (6) If any repair has been made to the chassis, it is recommended that the B1 setting should be checked or adjusted (See ADJUSTMENT OF B1 POWER SUPPLY).
- (7) The high voltage applied to the picture tube must conform with that specified in Service manual. Excessive high voltage can cause an increase in X-Ray emission, arcing and possible component damage, therefore operation under excessive high voltage conditions should be kept to a minimum, or should be prevented. If severe arcing occurs, remove the AC power immediately and determine the cause by visual inspection (incorrect installation, cracked or melted high voltage harness, poor soldering, etc.). To maintain the proper minimum level of soft X-Ray emission, components in the high voltage circuitry including the picture tube must be the exact replacements or alternatives approved by the manufacturer of the complete product.
- (8) Do not check high voltage by drawing an arc. Use a high voltage meter or a high voltage probe with a VTVM. Discharge the picture tube before attempting meter connection, by connecting a clip lead to the ground frame and connecting the other end of the lead through a 10k $\Omega$  2W resistor to the anode button.
- (9) When service is required, observe the original lead dress. Extra precaution should be given to assure correct lead dress in the high voltage circuit area. Where a short circuit has occurred, those components that indicate evidence of overheating should be replaced. Always use the manufacturer's replacement components.

#### (10) Isolation Check (Safety for Electrical Shock Hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the cabinet (antenna terminals, video/audio input and output terminals, Control knobs, metal cabinet, screw heads, earphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

##### a) Dielectric Strength Test

The isolation between the AC primary circuit and all metal parts exposed to the user, particularly any exposed metal part having a return path to the chassis should withstand a voltage of 3000V AC (r.m.s.) for a period of one second. (. . . Withstand a voltage of 1100V AC (r.m.s.) to an appliance rated up to 120V, and 3000V AC (r.m.s.) to an appliance rated 200V or more, for a period of one second.)

This method of test requires a test equipment not generally found in the service trade.

##### b) Leakage Current Check

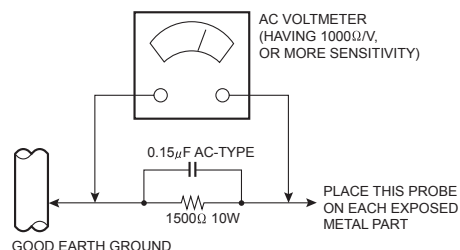
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground (water pipe, etc.). Any leakage current must not exceed 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.2mA AC (r.m.s.).

##### Alternate Check Method

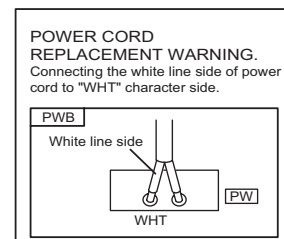
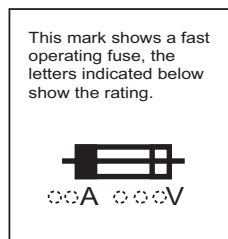
Plug the AC line cord directly into the AC outlet (do not use a line isolation transformer during this check.). Use an AC voltmeter having 1000 $\Omega$  per volt or more sensitivity in the following manner. Connect a 1500 $\Omega$  10W resistor paralleled by a 0.15 $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground (water pipe, etc.). Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75V AC (r.m.s.). This corresponds to 0.5mA AC (r.m.s.).

However, in tropical area, this must not exceed 0.3V AC (r.m.s.). This corresponds to 0.2mA AC (r.m.s.).



#### (11) High voltage hold down circuit check.

After repair of the high voltage hold down circuit, this circuit shall be checked to operate correctly. See item "How to check the high voltage hold down circuit".



## SECTION 2

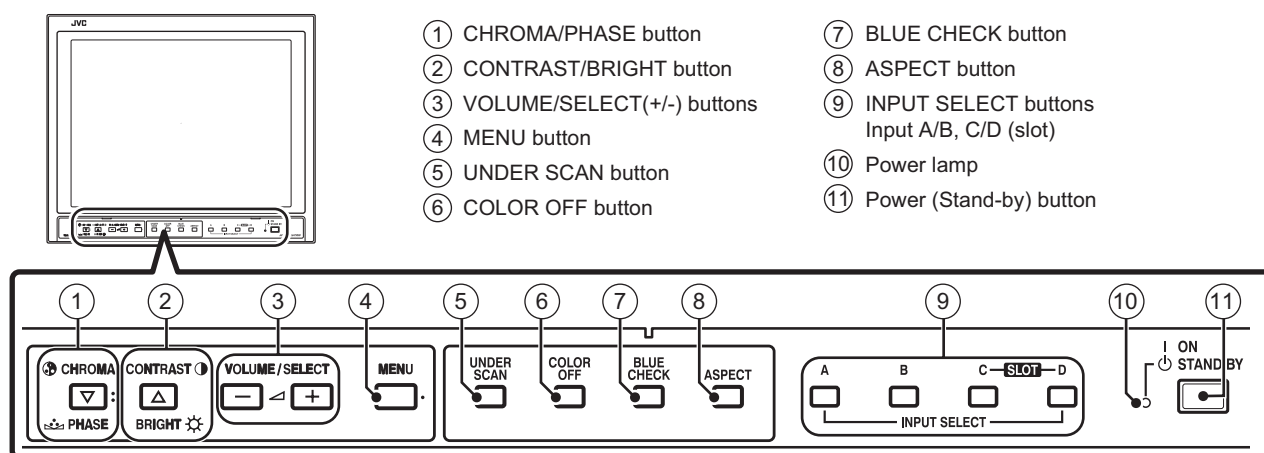
### SPECIFIC SERVICE INSTRUCTIONS

#### 2.1 FEATURES

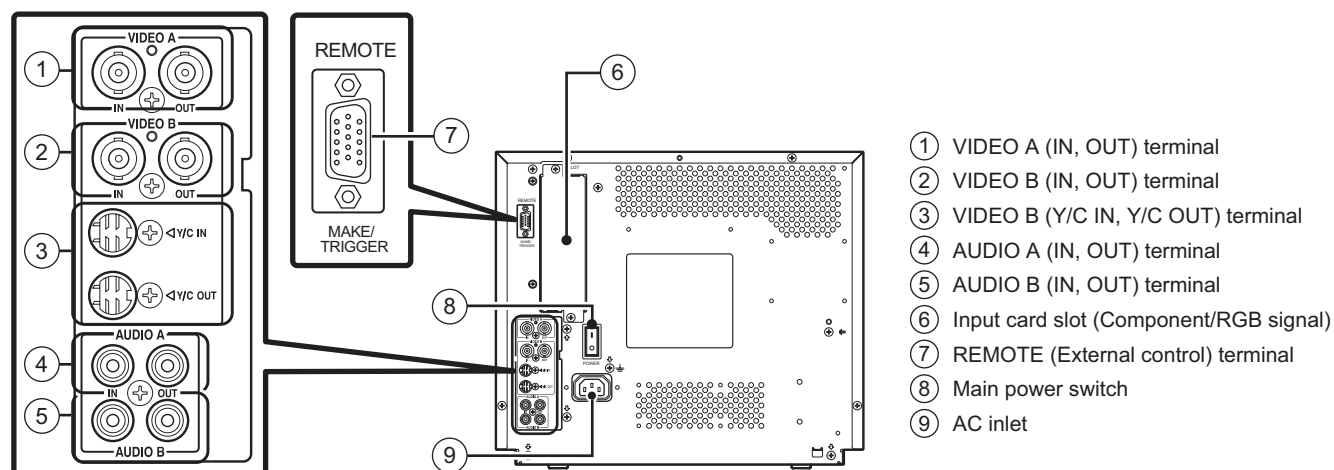
- High-resolution full square CRT is adopted.
- It can respond to both NTSC and PAL signal system. The incoming signal was discriminated and the automatic selection function that changes the mode automatically is adopted.
- In intelligible adoption of OSD, a menu is chosen or a user's original setup can be performed easily. The buttons which were easy to use for a whole surface panel, and was put in order can adjust functions, such as CONTRAST, BRIGHT, CHROMA, and PHASE (NTSC), easily. Moreover, the selected level is temporarily displayed on a screen.
- The metal cabinet is adopted which cannot be easily influenced of magnetic and strong.
- Two composite videos and one Y/C input are equipped, and bridge connection is possible respectively.
- With the OSD menu, the aspect ratio of a screen can be chosen as either 4:3 or 16:9.
- The remote terminal whose change of the aspect ratio (4:3 or 16:9) is enabled by remote control is equipped.
- The remote terminal whose change of the input (input A or B) is enabled by remote control is equipped.

#### 2.2 FUNCTION

##### FRONT PANEL & CONTROL



##### REAR TERMINAL





## SECTION 3 DISASSEMBLY

### 3.1 DISASSEMBLY PROCEDURE

#### CAUTION

Even if the power switch is turned off, some parts in this unit are alive. Be sure to disconnect the power plug from the AC outlet before disassembly and reassembly.

#### 3.1.1 REMOVING THE TOP COVER

- (1) Remove the 8 screws [A] as shown in Fig.4.
- (2) Slightly spread the bottom of the TOP COVER
- (3) Shift the TOP COVER rearward and raise it upward to remove it.

#### 3.1.2 REMOVING THE REAR PANEL

- Remove the TOP COVER.
- (1) Remove the 8 screws [B] as shown in Fig.4.
- (2) Remove the 1 screw [C] as shown in Fig.4.
- (3) As shown in Fig.1, lift the rear panel and remove the claw [K] from the terminal bracket.
- (4) Shift the top portion of the REAR PANEL slightly rearward and raise it upward to remove it.

#### 3.1.3 REMOVING THE TERMINAL BRACKET

- Remove the TOP COVER.
- Remove the REAR PANEL.
- (1) Remove the 1 screw [D] as shown in Fig.4.
- (2) Remove the 5 screw [E] as shown in Fig.4.
- (3) Remove the 1 screws [F] and [G] as shown in Fig.4.
- (4) Remove the 1 screw [H] as shown in Fig.4.
- (5) Remove the 2 hexagonal screws [J] as shown in Fig.4.
- (6) Pull the PW connector out from the MAIN PWB, connected between the MAIN POWER SWITCH and MAIN PWB.
- (7) As shown in Fig.2, lift the SLOT HOLDER slightly, and remove the 2 claws [L] attached SLOT HOLDER with the TERMINAL BRACKET.
- (8) As shown in Fig.3, raise the claw [M] positioned back side of the CHASSIS BASE, and lift the TERMINAL BRACKET from the CHASSIS BASE.
- (9) Slightly shift the TERMINAL BRACKET rearward and raise it upward to remove it.

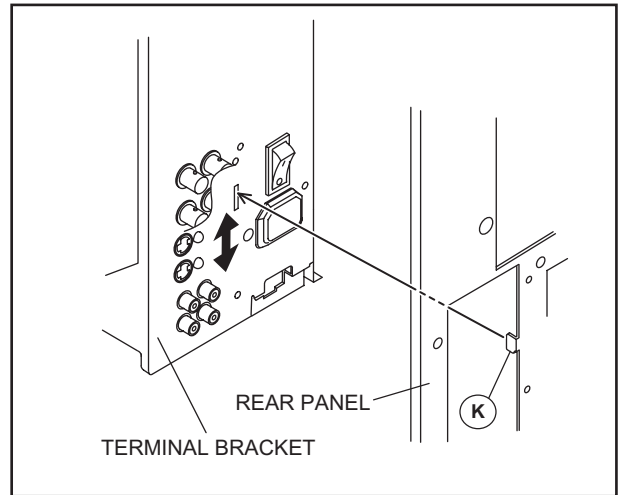


Fig.1

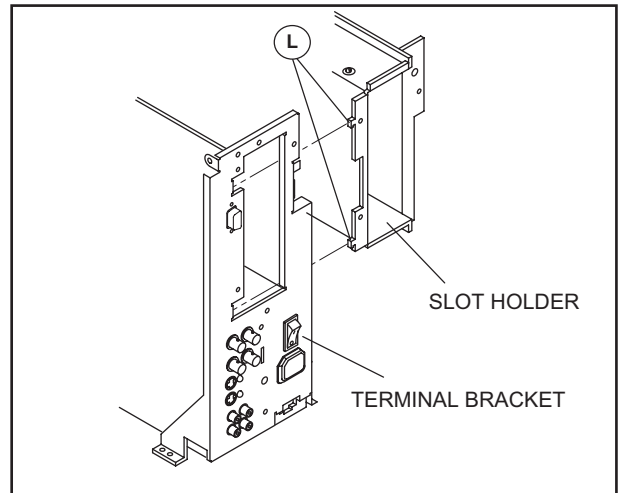


Fig.2

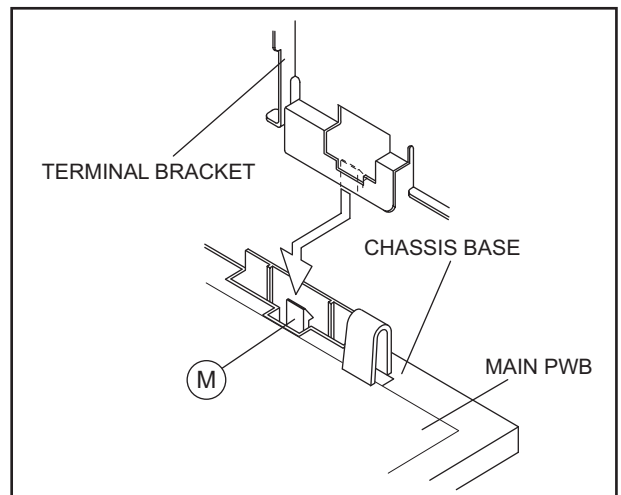


Fig.3

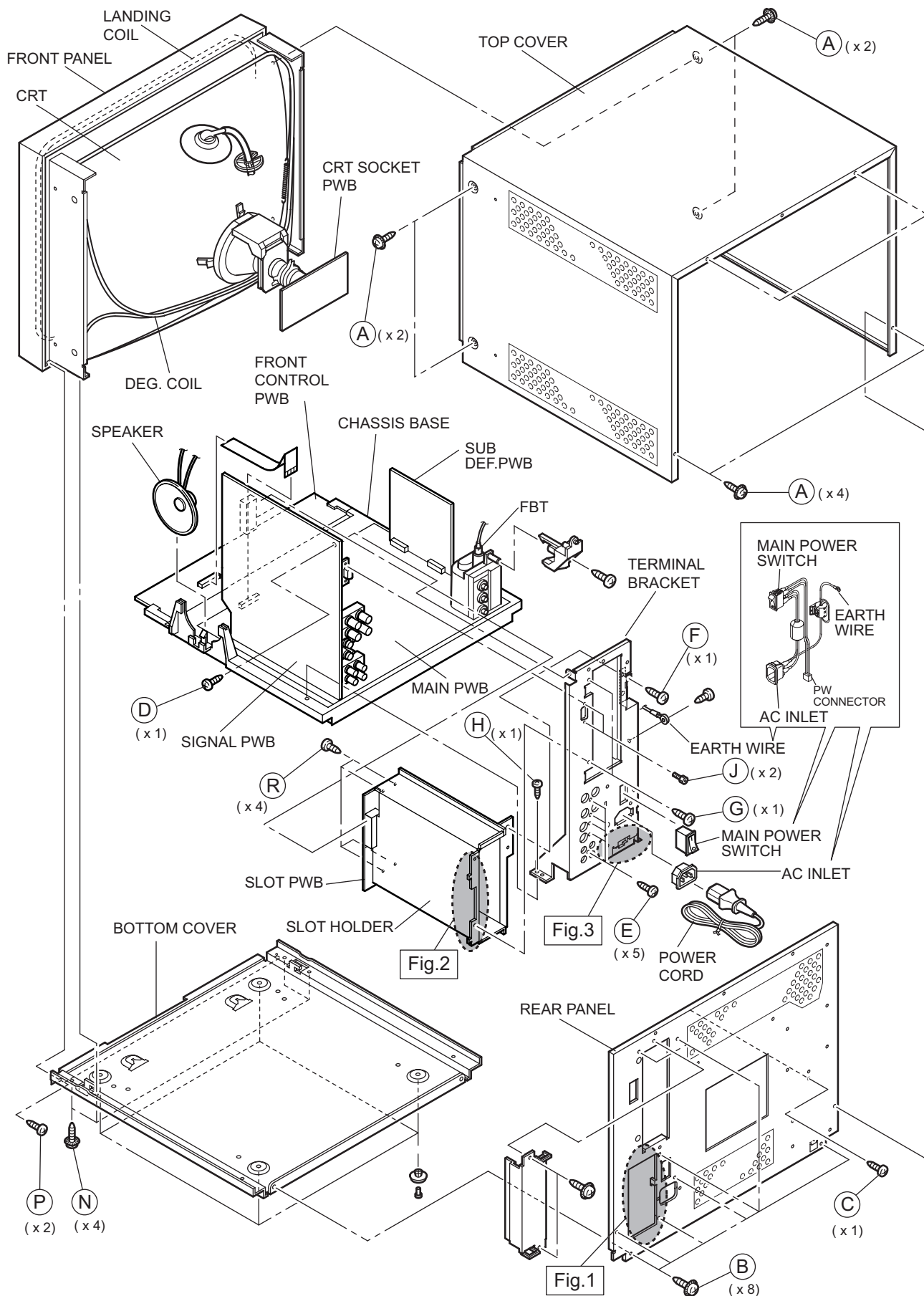


Fig.4



### 3.1.4 REMOVING THE SLOT HOLDER AND SLOT PWB

- Remove the TOP COVER.
- Remove the REAR PANEL.
- Remove the TERMINAL BRACKET.
  - (1) Detach the connector connected SLOT PWB and SIGNAL PWB, then remove the SLOT PWB with SLOT HOLDER.
  - (2) Remove the 4 screws [R] as shown in Fig.4.
  - (3) Then remove the SLOT PWB from SLOT HOLDER.

### 3.1.5 REMOVING THE CHASSIS BASE

- Remove the TOP COVER.
- Remove the REAR PANEL.
- Remove the TERMINAL BRACKET.
  - (1) Fall the unit down side ways as able to see the bottom side.
  - (2) Lift the back side of the CHASSIS BASE slightly, and separate it from BOTTOM COVER.
  - (3) Raise the 2 claws positioned bottom of the CHASSIS BASE, and detach the CHASSIS BASE from BOTTOM COVER.
  - (4) Then pull the CHASSIS BASE out to rearward.

### 3.1.6 REMOVING THE BOTTOM COVER

- Remove the TOP COVER.
- Remove the REAR PANEL.
- Remove the TERMINAL BRACKET.
- Remove the CHASSIS BASE.
  - (1) Set the CRT front surface downward, and stand the bottom cover to facing it toward you.

At this time, care must be exercised not to damage the front panel and CRT surface.
  - (2) Remove the 4 screws [N] as shown in Fig.4.
  - (3) Remove the 2 screws [P] as shown in Fig.4.
  - (4) While spreading the BOTTOM COVER to the bottom side, pull it out to rearward to remove it.

### 3.1.7 REMOVING THE SPEAKER

- Remove the TOP COVER.
  - (1) Slightly spread the claws of the speaker holder.
  - (2) Pull up the SPEAKER to remove it.

### 3.1.8 CHECKING THE PW BOARD

To check the PW board from back side.

- (1) As shown in Fig.5, place the unit for service.
- (2) Erect the chassis base vertically so that you can easily check the PW board from back side.

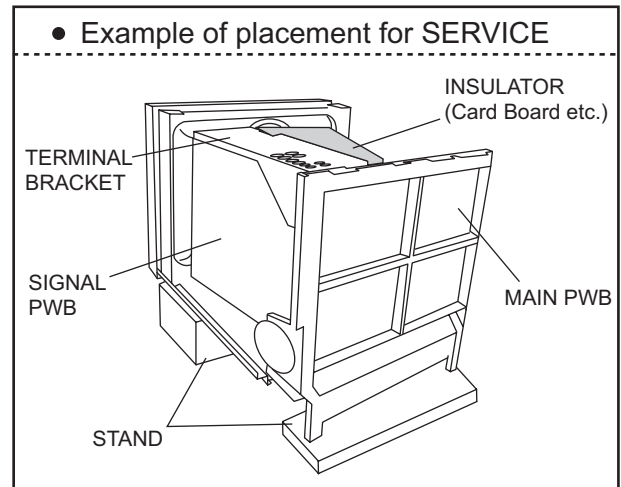


Fig.5

### CAUTION

- Before turning on power, make sure that the earth wire properly connected to the TERMINAL BRACKET, which is attached the main power switch and AC inlet. (Fig.6)
- And make sure that the CRT earth wire and the other connectors are properly connected.
- When erecting the CHASSIS BASE, be careful so that there will be no contacting with the other PW board.
- Be careful while erecting the PW board, because easily fall down.

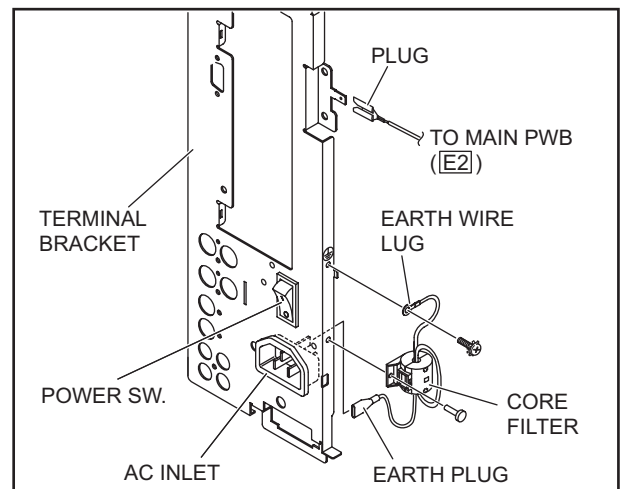


Fig.6

### 3.1.9 WIRE CLAMPING AND CABLE TYING

- (1) Be sure to clamp the wire.
- (2) Never remove the cable tie used for tying the wires together.

Should it be inadvertently removed, be sure to tie the wires with a new cable tie.

## 3.2 MEMORY IC REPLACEMENT

### 3.2.1 MEMORY IC

This model uses memory IC. In the memory IC, there are memorized data for correctly operating for the video-chroma, deflection and the other control circuits.

When replacing memory IC, be sure to use the IC written with the initial values of data.

### 3.2.2 MEMORY IC REPLACEMENT PROCEDURE

#### 1. Power off

Turn the power off and unplug the power plug from the AC outlet.

#### 2. Replace IC

Be sure to use the memory IC written with the initial setting data.

#### 3. Power on

Connect the power plug into the AC outlet and turn the power on.

#### 4. Check and set SET-UP MENU items

- (1) Press the [MENU] button and the [CHROMA /PHASE] button simultaneously.
- (2) The < SET-UP MENU > screen (Fig. 1) will be displayed.
- (3) Check the setting value of the each item of the < SET-UP MENU >. If value is different, select it and set the correct value.
- (4) Press the [MENU] button, and return to the normal screen.

#### 5. Check and set MENU items

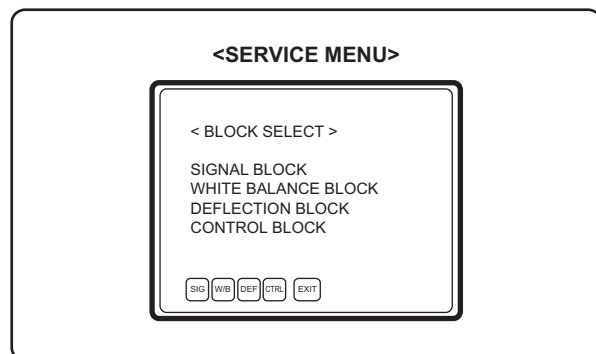
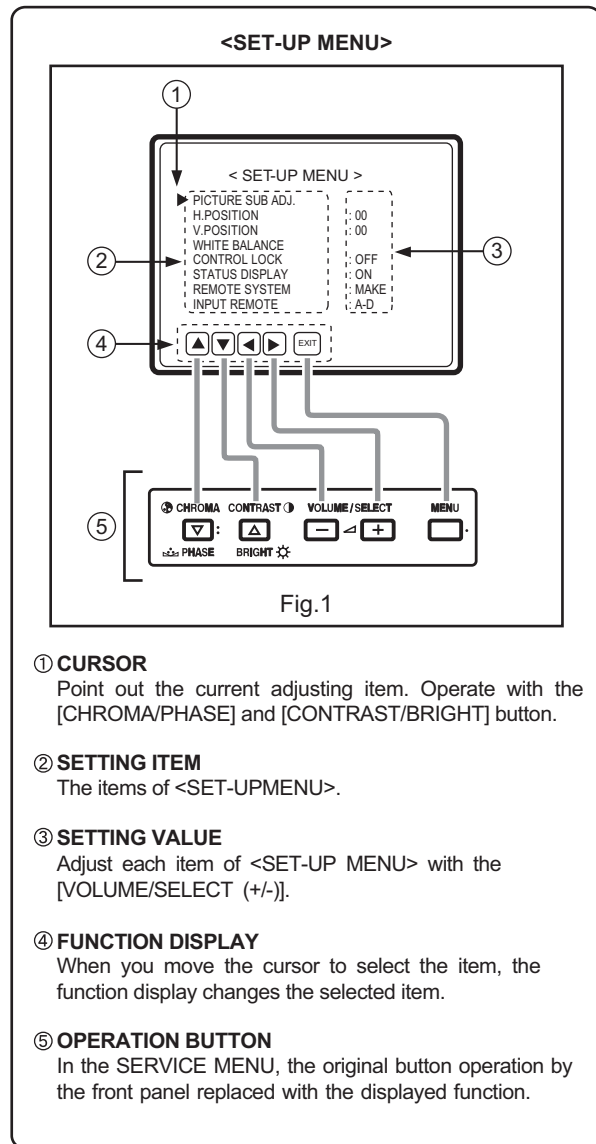
Press the [MENU] button and check the setting value of the each item. If the value is different, select the item and set the correct value.

#### 6. Adjust the front control items

Adjust the CHROMA, PHASE, CONTRAST and BRIGHT. Not all items can be adjusted as expected if the signal has not been input correctly in the adjustments.

#### 7. Confirm the items of SERVICE MENU

Confirm the each item of the SERVICE MENU. Refer to the corresponding page to operate the SERVICE MENU.



### 3.2.3 FACTORY SETTING VALUE (USER MODE)

#### ■ INITIAL SETTING VALUE OF THE SET-UP MENU

Setting item	Setting content / Range		Initial setting value
PICTURE SUB ADJ.	CONTRAST	-10 ~ 00 ~ +10	00
	BRIGHT	-10 ~ 00 ~ +10	00
	CHROMA	-10 ~ 00 ~ +10	00
	PHASE (NTSC)	-10 ~ 00 ~ +10	00
H. POSITION	-05 ~ +05		00
V. POSITION	-05 ~ +05		00
WHITE BALANCE	CUTOFF (R / G / B)	-20 ~ +20	00
	DRIVE (R / B)	-20 ~ +20	00
CONTROL LOCK	→ ON → OFF →		OFF
STATUS DISPLAY	→ ON → OFF →		ON
REMOTE SYSTEM	→ MAKE → TRG. →		MAKE
INPUT REMOTE	→ A-D → A/B →		A-D

#### ■ INITIAL SETTING VALUE OF THE MENU

Setting item	Setting content / Range	Initial setting value
APERTURE	00 ~ +40	00
ADJ. BAR POSI	→ LOWER → UPPER →	LOWER
COLOR TEMP	→ 9300 → 6500 →	6500
COLOR SYSTEM	→ AUTO → NTSC → AUTO → PAL →	AUTO
RUSH DELA	→ STD. → SLOW →	STD.

#### ■ INITIAL SETTING VALUE OF FRONT PANEL CONTROLS

Control item (Front panel)	Initial setting value	
INPUT SELECT	A	
ASPECT	OFF	
BLUE CHECK	OFF	
COLOR OFF	OFF	
UNDER SCAN	OFF	
MENU	OFF	
VOLUME	20	
CONTRAST	00	
BRIGHT	00	
CHROMA	00	
PHASE	NTSC : 00	PAL : NO EFFECT

### 3.2.4 SERVICE MENU SETTING ITEMS (SERVICE MODE)

#### SIGNAL BLOCK

Item	Contents
S01	BRIGHT
S02	CONTRAST
S03	CHROMA(PAL)
S04	CHROMA(NTSC)
S05	PHASE(NTSC)
S06	CHROMA
S07	BRIGHT
S08	CONTRAST
S09	BRIGHT
S10	CONTRAST
S11	PHASE(PAL)
S12	PHASE
S13	CONT TRACKING

#### WHITE BALANCE BLOCK

Item	Contents
W01	R CUTOFF
W02	G CUTOFF
W03	B CUTOFF
W04	R DRIVE (6500K)
W05	B DRIVE (6500K)
W06	R DRIVE (9300K)
W07	B DRIVE (9300K)
W08	R CUTOFF
W09	G CUTOFF
W10	B CUTOFF
W11	R DRIVE (6500K)
W12	B DRIVE (6500K)
W13	R DRIVE (9300K)
W14	B DRIVE (9300K)
W15	R CUTOFF
W16	G CUTOFF
W17	B CUTOFF
W18	R DRIVE (6500K)
W19	B DRIVE (6500K)
W20	R DRIVE (9300K)
W21	B DRIVE (9300K)
W22	R CUTOFF
W23	G CUTOFF
W24	B CUTOFF

#### DEFLECTION BLOCK

Item	Aspect ratio Scan size	Vertical frequency	Contents
D01	4:3 NORMAL SCAN	50Hz	HORIZONTAL POSITION
D02			HORIZONTAL SIZE
D03			VERTICAL POSITION
D04			VERTICAL SIZE
D05			VERTICAL LINEARITY
D06			VERTICAL S-CORRECTION
D07			SIDEPIN PARABOLA
D08			SIDEPIN CORNER
There are many mode of the DEFLECTION BLOCK except for above DA1~DA8 (4:3 / 60Hz) DB1~DB8 (16:9 / 50Hz) DC1~DC8 (16:9 / 60Hz) DD1~DD8 (UNDER SCAN / 50Hz) DE1~DE8 (UNDER SCAN / 60Hz) DF7~DF8 (16:9 UNDER SCAN / 50Hz)			

#### CONTROL BLOCK (Don't change the values, because all fixed)

Item	Contents
C01	DESTINATION
C02	BRIGHT POINT
C03	UPPER
C04	CONTRAST POINT
C05	LOWER
C06	CHROMA POINT
C07	UPPER
C08	PHASE POINT
C09	LOWER
C10	OSD HORIZONTAL POSITION
C11	OSD VERTICAL FREQUENCY 50Hz
C12	OSD VERTICAL FREQUENCY 60Hz
C13	HORIZONTAL CENTER (RGB)
C14	HORIZONTAL CENTER (COMPONENT)
C15	BRIGHT SERVICE
C16	SHARPNESS CENTER
C17	HVT H
C18	HVT V
C19	HVT H (UNDER SCAN)
C20	HVT V (UNDER SCAN)
C21	V-S.CORRECTION
C22	TRAPEZOID
C23	HOUR METER
C24	RUSH DELAY
C25	DEGAUSS DELAY TIME
C26~C33	SLOT IDENTIFY
C34	LANDING ENABLE
C35	LANDING START

### 3.2.5 LANDING MENU SETTING ITEMS

Item	Input signal	Contents
- - -	PAL / NTSC	LANDING

### 3.3 REPLACEMENT OF CHIP COMPONENT

#### 3.3.1 CAUTIONS

- (1) Avoid heating for more than 3 seconds.
- (2) Do not rub the electrodes and the resist parts of the pattern.
- (3) When removing a chip part, melt the solder adequately.
- (4) Do not reuse a chip part after removing it.

#### 3.3.2 SOLDERING IRON

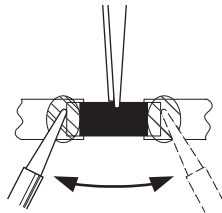
- (1) Use a high insulation soldering iron with a thin pointed end of it.
- (2) A 30w soldering iron is recommended for easily removing parts.

#### 3.3.3 REPLACEMENT STEPS

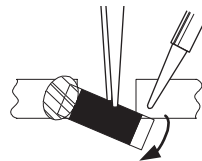
##### 1. How to remove Chip parts

[Resistors, capacitors, etc.]

- (1) As shown in the figure, push the part with tweezers and alternately melt the solder at each end.



- (2) Shift with the tweezers and remove the chip part.

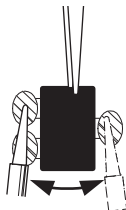


[Transistors, diodes, variable resistors, etc.]

- (1) Apply extra solder to each lead.



- (2) As shown in the figure, push the part with tweezers and alternately melt the solder at each lead. Shift and remove the chip part.



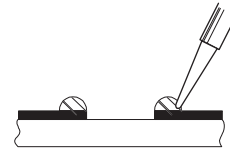
#### NOTE :

After removing the part, remove remaining solder from the pattern.

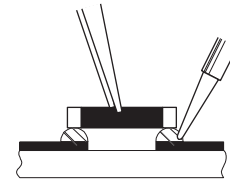
##### 2. How to install Chip parts

[Resistors, capacitors, etc.]

- (1) Apply solder to the pattern as indicated in the figure.

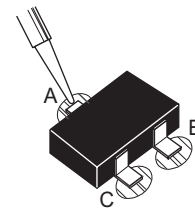


- (2) Grasp the chip part with tweezers and place it on the solder. Then heat and melt the solder at both ends of the chip part.

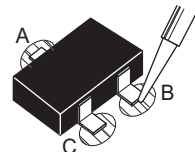


[Transistors, diodes, variable resistors, etc.]

- (1) Apply solder to the pattern as indicated in the figure.
- (2) Grasp the chip part with tweezers and place it on the solder.
- (3) First solder lead **A** as indicated in the figure.



- (4) Then solder leads **B** and **C**.



## SECTION 4 ADJUSTMENT

### 4.1 ADJUSTMENT PREPARATION

- (1) There are 2 ways of adjusting this unit: One is with the MENU as On-Screen-Display and the other is the conventional method using adjustment parts and components.
- (2) The adjustment using the On-Screen-Display is made on the basis of the initial setting values. The setting values which adjust the screen to the optimum condition can be different from the initial setting values.
- (3) Make sure that connection is correctly made AC to AC power source.
- (4) Turn on the power of the TV and measuring instruments for warning up for at least 30 minutes before starting adjustments.
- (5) If the receive or input signal is not specified, use the most appropriate signal for adjustment.
- (6) Never touch the parts (such as variable resistors, transformers and condensers) not shown in the adjustment items of this service adjustment.
- (7) Unless otherwise specified in the adjustment items, preset the values that the < SET-UP MENU >, MENU and FRONT PANEL CONTROL to initial conditions.

### 4.2 MEASURING INSTRUMENT

- (1) DC voltmeter (digital voltmeter)
- (2) HV voltmeter
- (3) Oscilloscope
- (4) Color temperature meter or Color analyser
- (5) Signal generator (PAL/NTSC)

### 4.3 PRESETTING FOR ADJUSTMENT

Setting item	Setting value
APERTURE	00
ADJ. BAR POSITION	LOWER
COLOR TEMP.	6500
COLOR SYSTEM	AUTO
RUSH DELAY	STD.
INPUT SELECT	A
ASPECT	OFF (4 : 3)
BLUE CHECK	OFF
COLOR OFF	OFF
UNDERSCAN	OFF
MENU	OFF
VOLUME	20
CONTRAST	00
BRIGHT	00
CHROMA	00
PHASE (NTSC)	00

### 4.4 ADJUSTMENT ITEMS

#### CHECK ITEM

- HIGH VOLTAGE check
- HIGH VOLTAGE HOLD DOWN check

#### B1 VOLTAGE

#### FOCUS ADJUSTMENT

#### VIDEO CIRCUIT

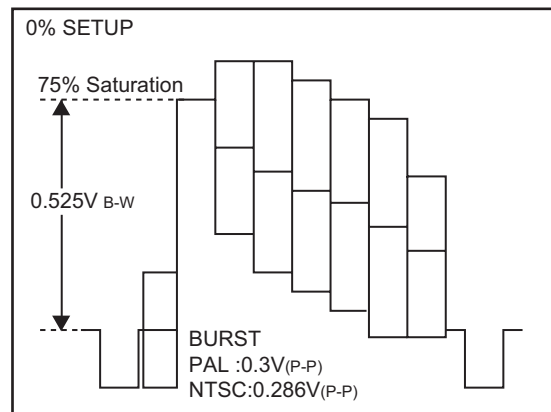
- WHITE BALANCE adjustment
- SUB BRIGHT adjustment
- SUB CONTRAST adjustment
- PAL CHROMA adjustment
- NTSC 3.58 CHROMA adjustment
- NTSC 3.58 PHASE adjustment
- COMPONENT CHROMA adjustment
- RGB BRIGHT adjustment
- RGB CONTRAST adjustment

#### DEFLECTION CIRCUIT

- H. POSITION / H. SIZE adjustment
- 4:3 SIDE PINCUSHION adjustment
- V. POSITION adjustment
- V. LIN. / V.S-CORRECTION adjustment
- 4:3 V. SIZE adjustment
- 16:9 V. SIZE adjustment
- 16:9 SIDE PINCUSHION adjustment
- UNDERSCAN H. POSITION / H. SIZE adjustment
- UNDERSCAN SIDE PINCUSHION adjustment
- 16:9 UNDERSCAN SIDE PINCUSHION adjustment

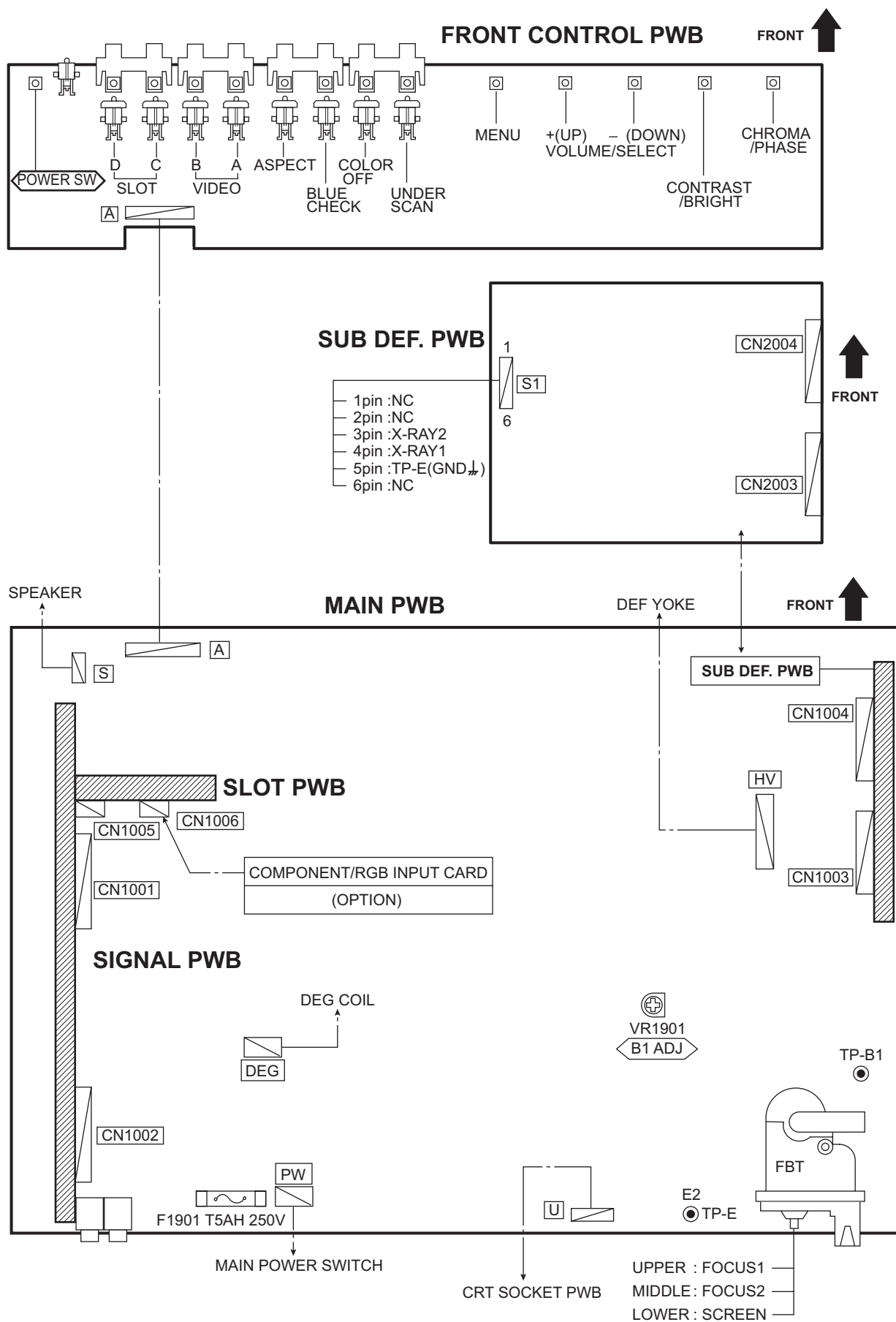
### 4.5 STANDARD SIGNALS FOR ADJUSTMENT ITEMS

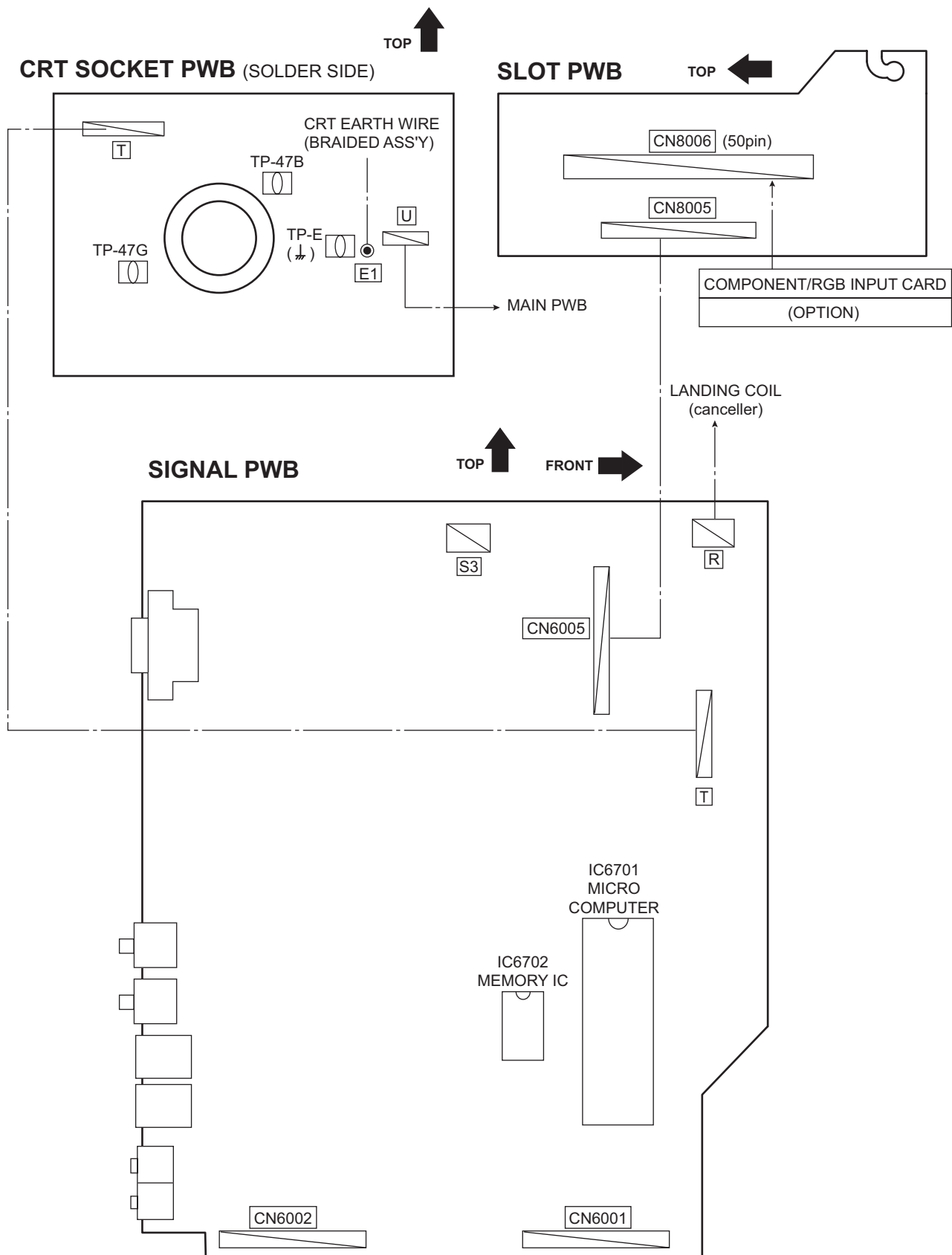
COMPOSITE VIDEO SIGNAL (PAL/NTSC colour bar)





#### 4.6 ADJUSTMENT LOCATIONS / WIRING DIAGRAM





## 4.7 BASIC OPERATION OF SERVICE MENU

### 4.7.1 SERVICE MENU ITEMS

With the SERVICE MENU, various settings can be made, and they are broadly classified in the following items of adjustments.

- It is no requirement for adjustment **portion** of the DEFLECTION BLOCK and CONTROL BLOCK

<b>SIGNAL BLOCK</b>	This block adjusts the data of the various signal circuit controls.
<b>WHITE BALANCE BLOCK</b>	This block adjusts the data of the WHITE BALANCE adjustment.
<b>DEFLECTION BLOCK</b>	This block adjusts the data of the DEFLECTION circuit.
<b>CONTROL BLOCK (Don't adjust)</b>	This block adjusts the whole of the systems.

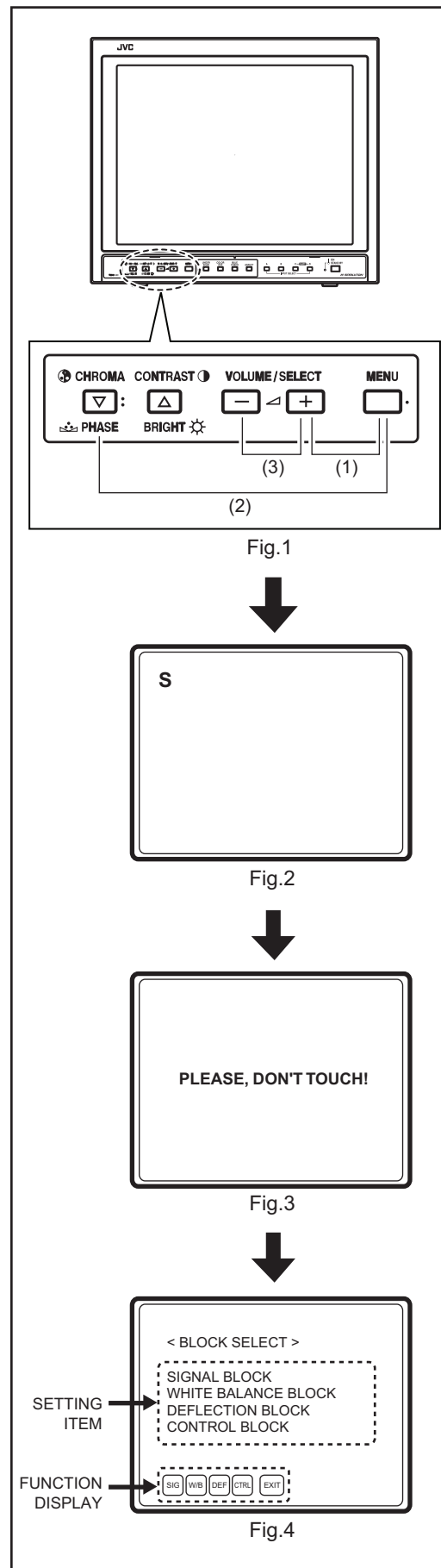
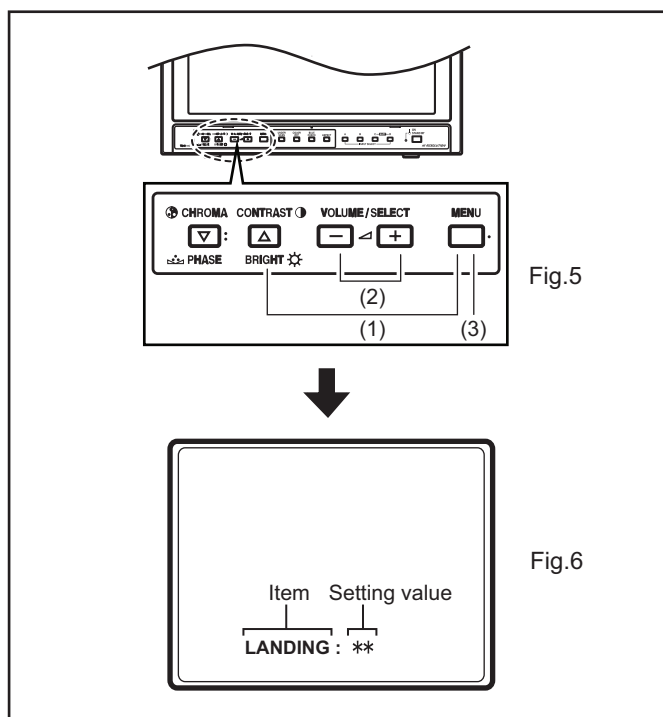
### 4.7.2 HOW TO ENTER THE SERVICE MENU

- (1) Press [MENU] and [VOLUME/SELECT (+)] button simultaneously (Fig. 1).  
The letter "S" appears at the upper left of the screen (Fig. 2).
  - (2) While displaying the letter "S", press [MENU] and [CHROMA /PHASE] button simultaneously (Fig.1).  
The screen display "PLEASE, DON'T TOUCH" (Fig. 3).
  - (3) While displaying the letters, press [VOLUME/SELECT (+ / -)] button to display the SERVICE MENU as shown in Fig. 4.
  - (4) Press the [MENU] button, then return to the normal screen.
- If displaying the letters steps or state continues for more than 5 seconds without a further operation, the display extinguishes and the mode is released.

### 4.7.3 LANDING CORRECTION PROCEDURE

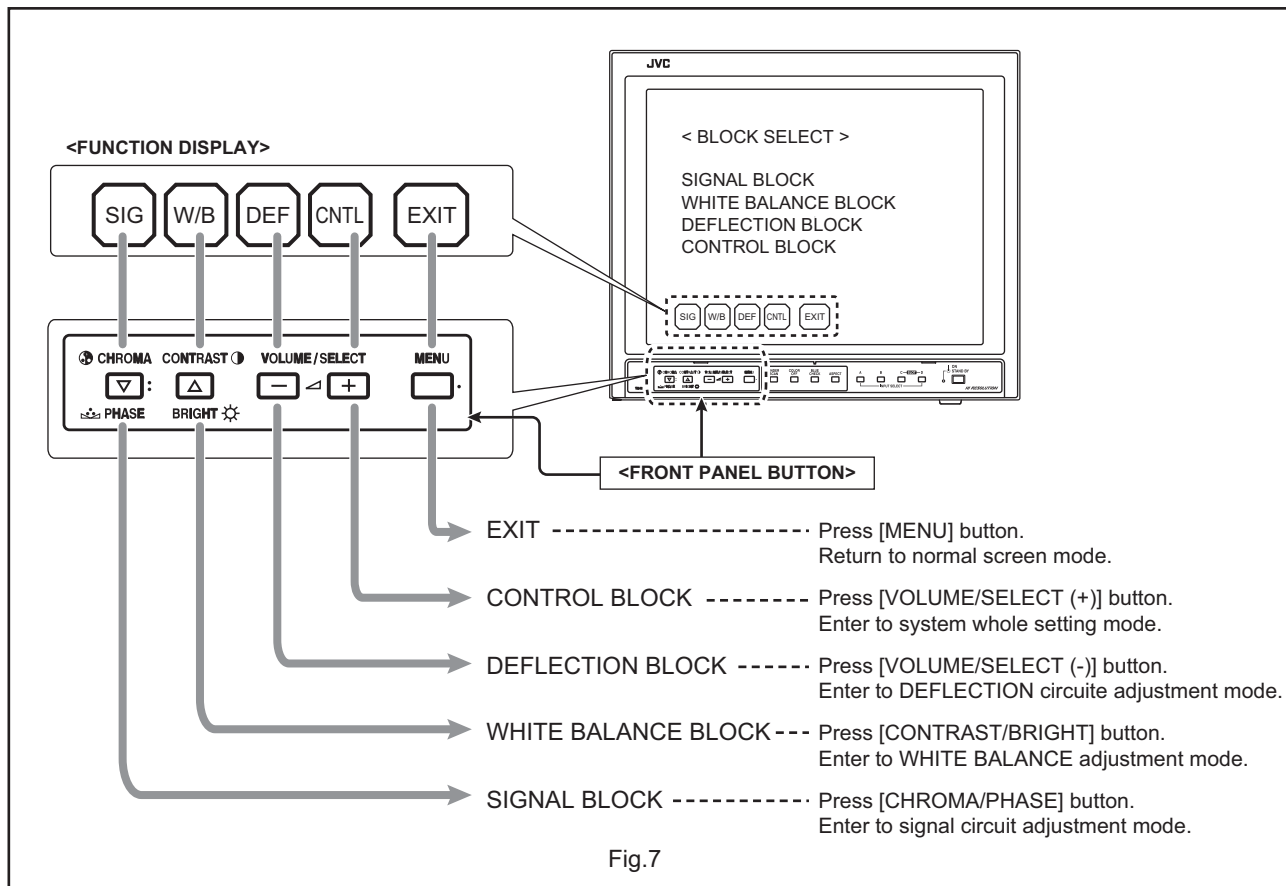
Landing correction is used only when uneven coloring is conspicuous.

- Input the white signal
  - (1) Press [MENU] and [CONTRAST/BRIGHT] button simultaneously (Fig. 5). < LANDING > is displayed on the screen (Fig. 6).
  - (2) Adjust to the state where irregular color is not most conspicuous with [VOLUME/SELECT (+ / -)] buttons (fig.5).
  - (3) If adjustment is completed, return with [MENU] button (Fig.5).



#### 4.7.4 OPERATION OF < BLOCK SELECT > SCREEN

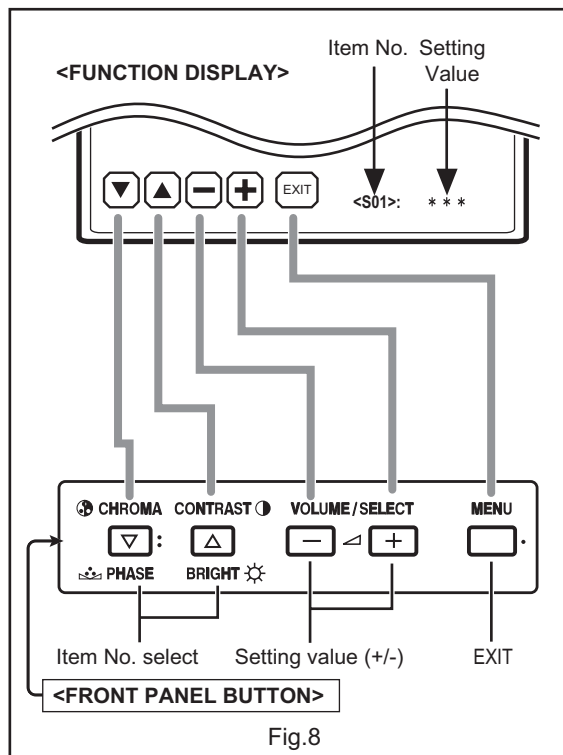
While the SERVICE MENU < BLOCK SELECT > screen is displaying, in accordance with (FUNCTION DISPLAY) at the lower side of the screen, be able to operate the various items (Fig. 7).



#### 4.7.5 OPERATION EXAMPLE : SIGNAL BLOCK ADJUSTMENT

##### Signal block adjustment

- (1) **SELECT THE SIGNAL BLOCK**  
Press the [CHROMA/PHASE] button to select the signal block. Then enter to the SIGNAL BLOCK screen.
- (2) **SELECT THE ITEM NO.**  
Press the [CHROMA/PHASE] button or [CONTRAST/BRIGHT] button to select the item NO.
- (3) **ADJUSTMENT DATA OPERATION**  
Press the [VOLUME/SELECT(+)] button to change the setting value in the (+) direction.  
Press the [VOLUME/SELECT(-)] button to change the setting value in the (-) direction.  
The setting values are automatically memorised.
- (4) **EXIT SERVICE MENU**  
When adjustments are completed, press [MENU] button then return to the < BLOCK SELECT > screen. Again press [MENU] button then return to the normal screen.



#### 4.7.6 SERVICE MENU ITEMS

##### ■ SIGNAL BLOCK

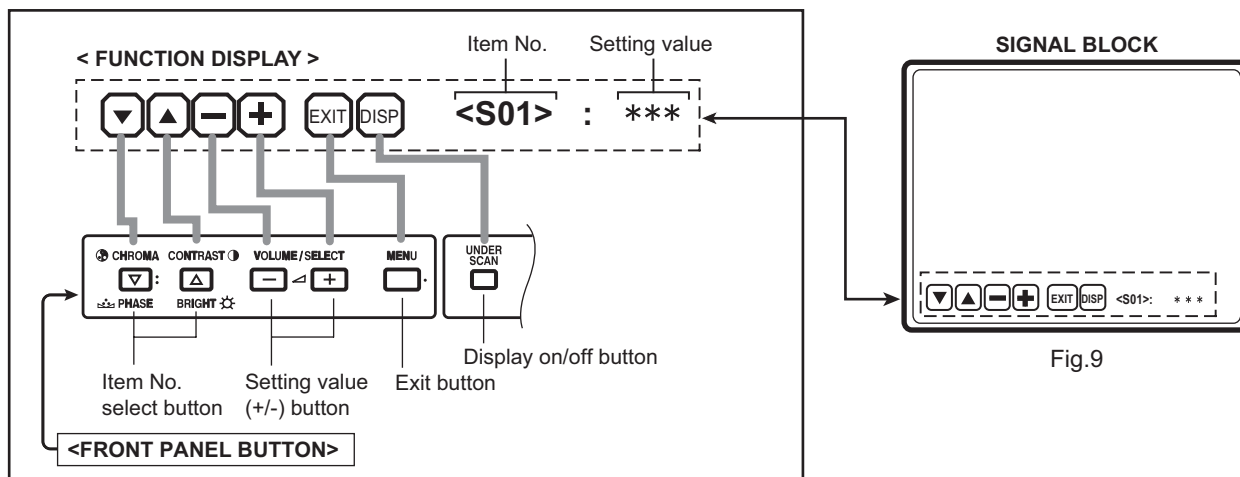


Fig.9

##### ■ WHITE BALANCE BLOCK

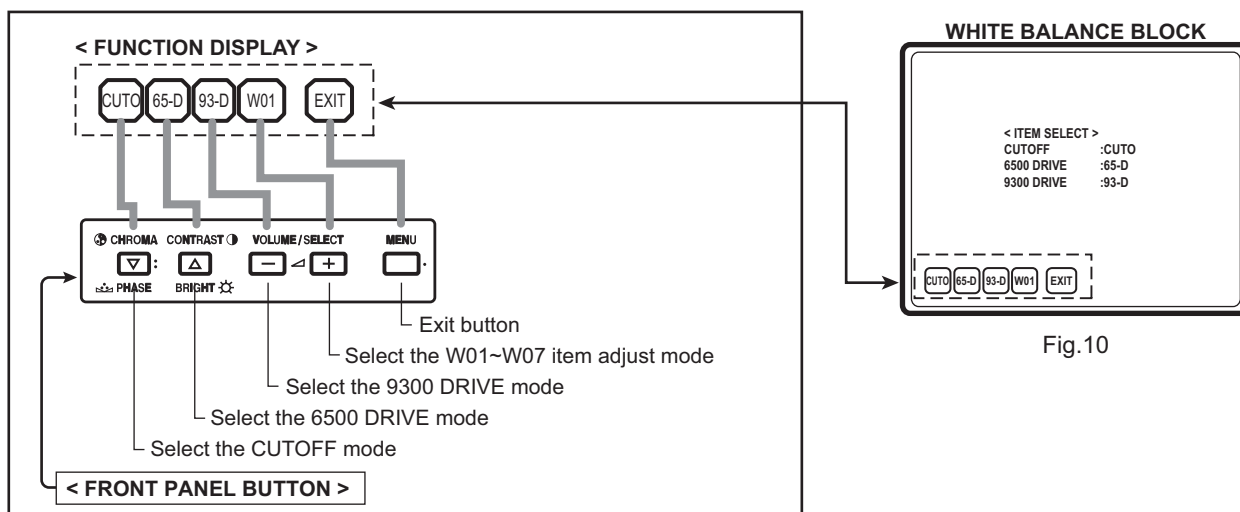
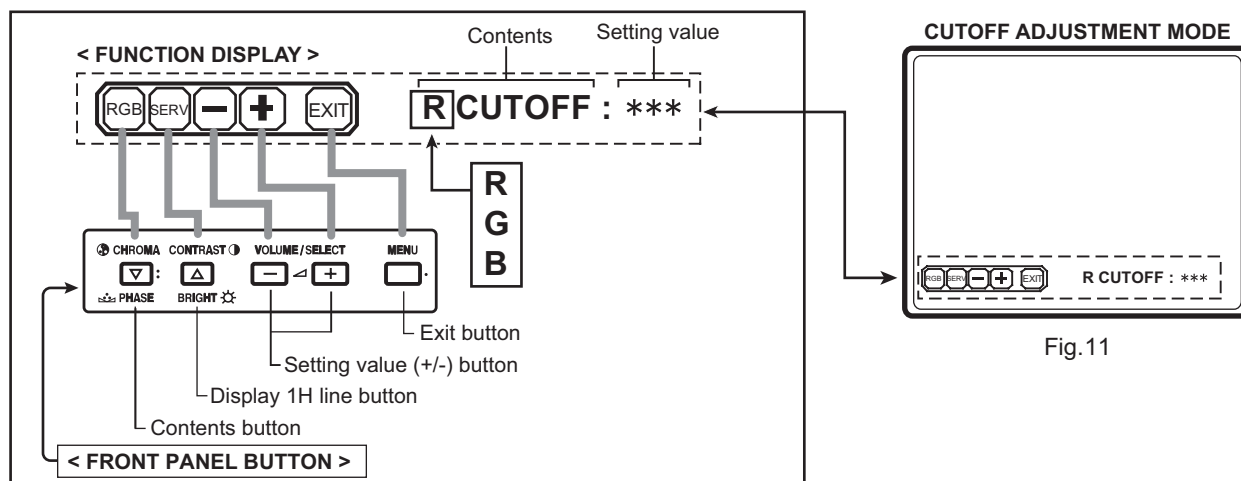


Fig.10

## [ WHITE BALANCE ADJUSTMENT : METHOD 1 ]

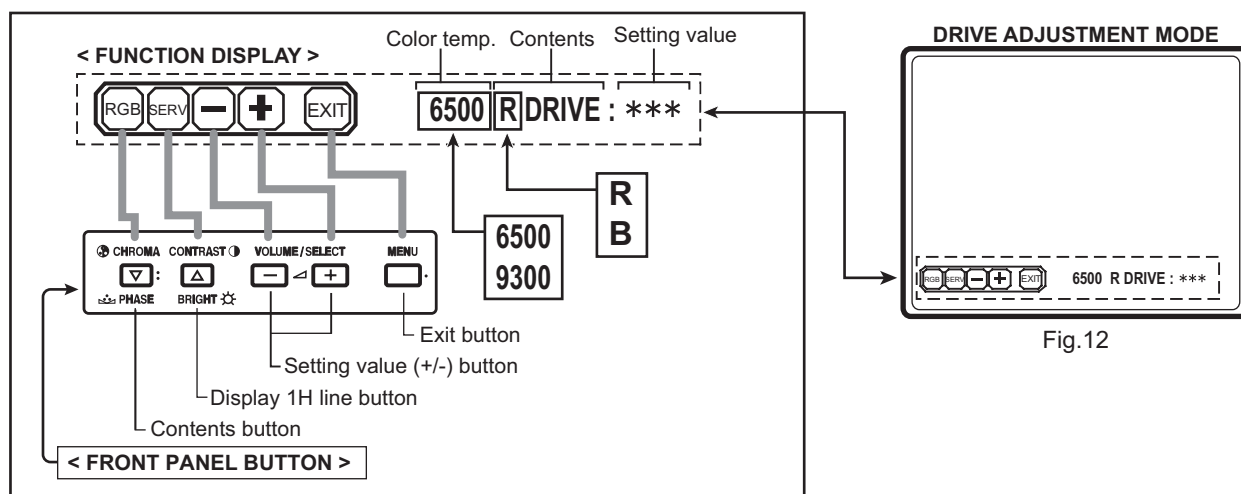
- Accordance with the screen display, select the each WHITE BALANCE mode following below.
- Refer to the "Low-Light adjustment" corresponding page about detailed adjustment steps.

### CUTOFF ADJUSTMENT MODE (LOW LIGHT ADJUSTMENT)

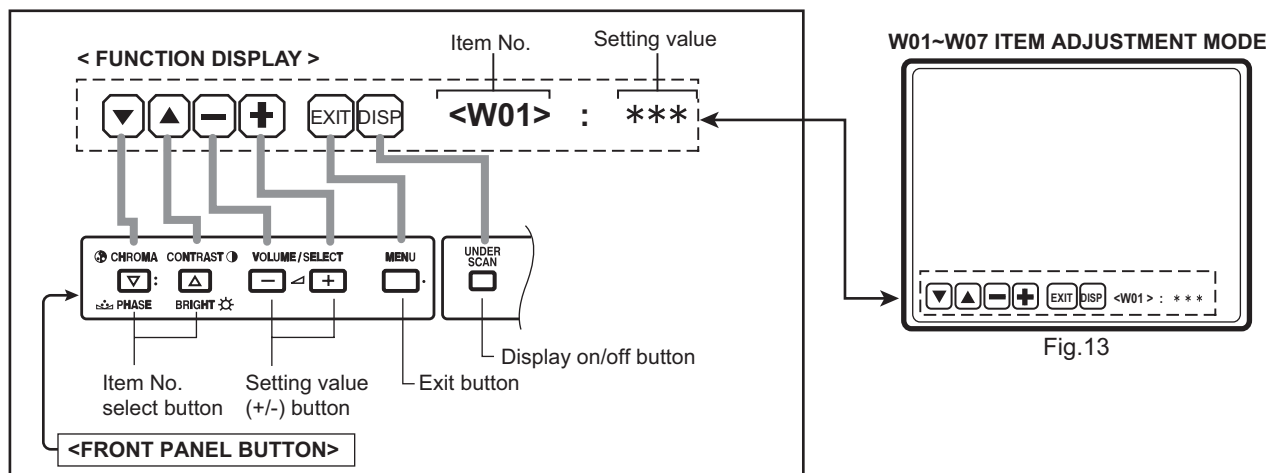


### DRIVE ADJUSTMENT MODE (HIGH LIGHT)

- Refer to the "High-Light adjustment" corresponding page about detailed adjustment steps.



## [WHITE BALANCE ADJUSTMENT : METHOD 2]





# ■ DEFLECTION BLOCK

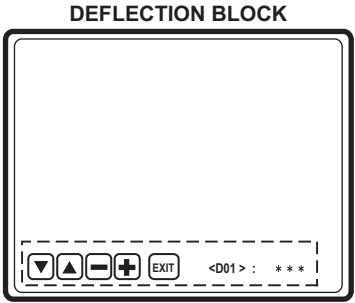
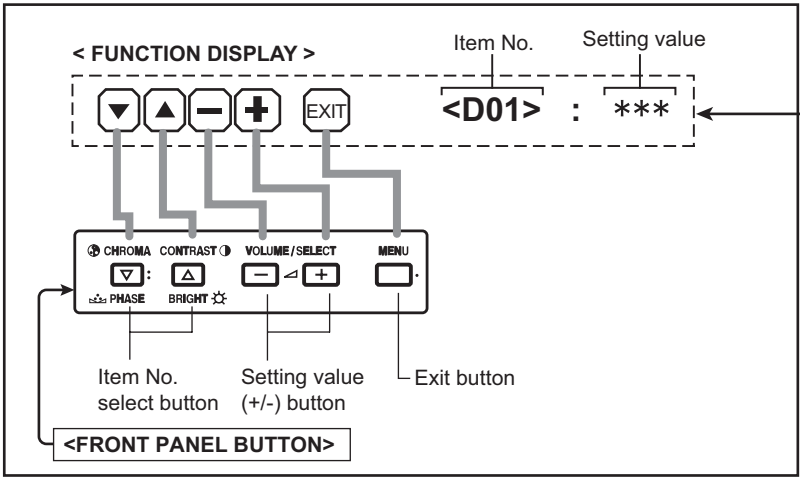


Fig.14

# ■ CONTROL BLOCK

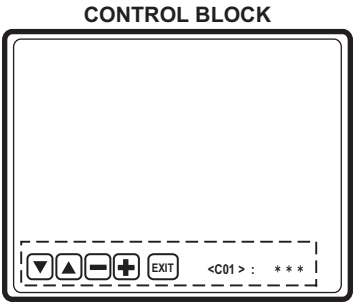
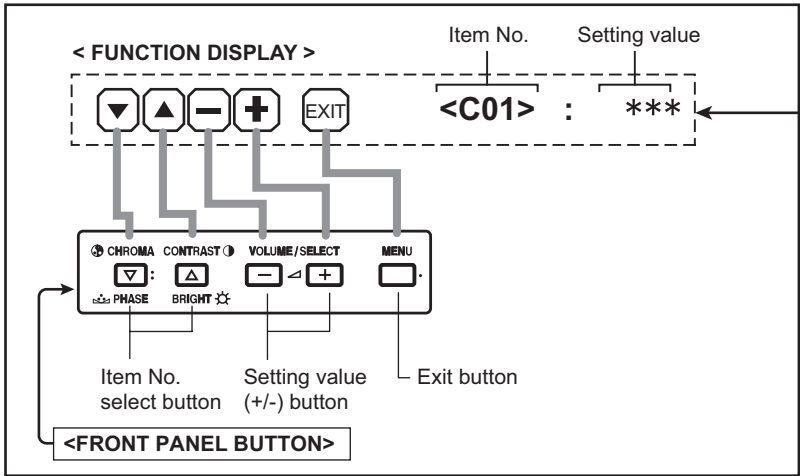
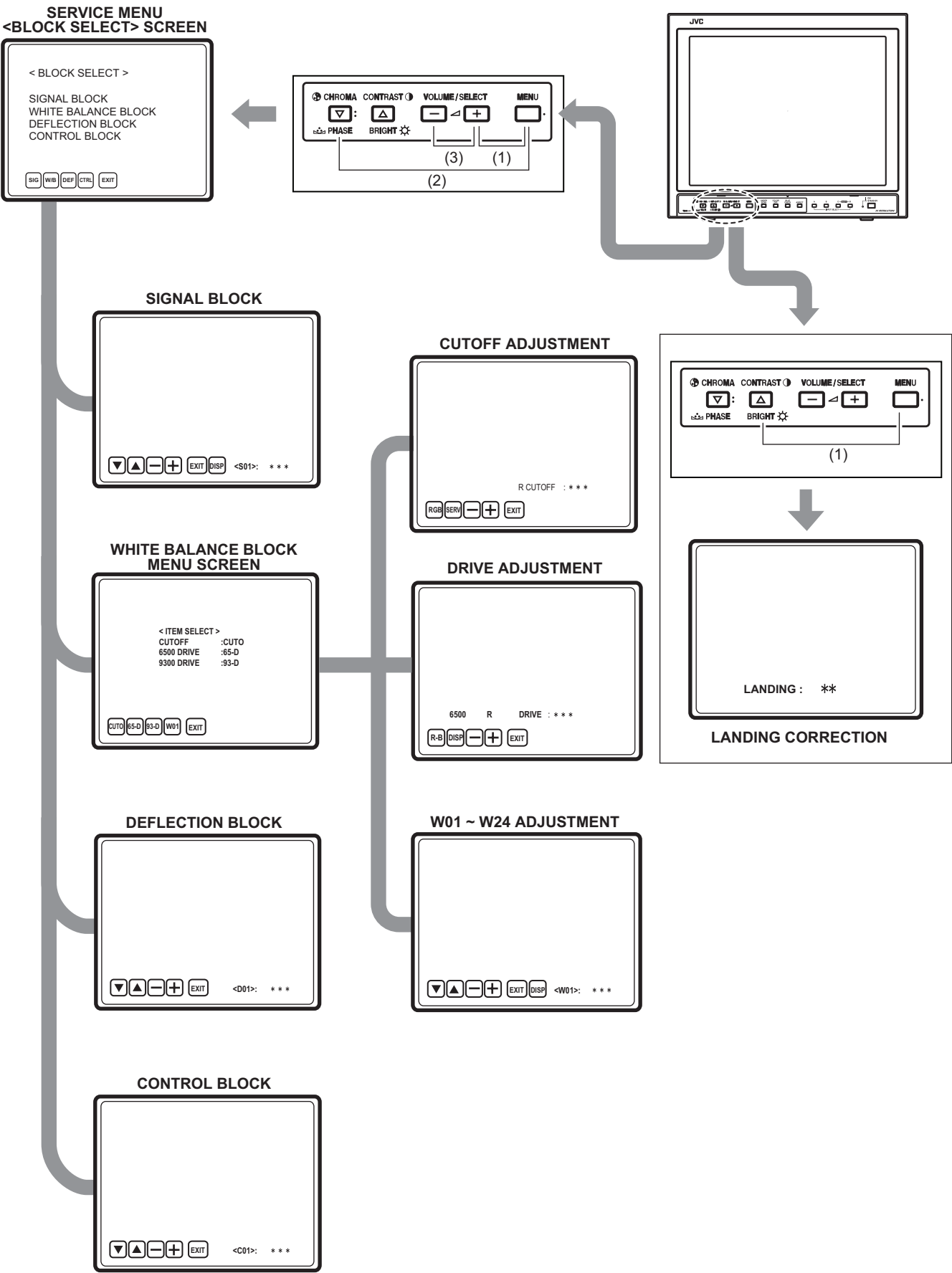


Fig.15

4.7.7 SERVICE MENU FLOW CHART



#### 4.8 INITIAL SETTING VALUE OF SERVICE MENU

It is no requirement for adjustment of the  part of the tables. Don't change the values.

##### [SIGNAL BLOCK]

Item	Input signal	Contents	Variable range	Initial value
S01	VIDEO	BRIGHT	000 ~ 255	137
S02		CONTRAST	000 ~ 127	059
S03		CHROMA(PAL)	000 ~ 127	064
S04		CHROMA(NTSC)	000 ~ 127	062
S05		PHASE(NTSC)	000 ~ 127	060
S06	COMPONENT	CHROMA	000 ~ 127	080
S07	RGB	BRIGHT	000 ~ 127	076
S08		CONTRAST	-128 ~ 000 ~ +127	-001
S09	VIDEO	UNDER SCAN BRIGHT	-128 ~ 000 ~ +127	000
S10		UNDER SCAN CONTRAST	-128 ~ 000 ~ +127	-009
S11		PHASE(PAL)	000 ~ 127	062(FIXED)
S12	COMPONENT	PHASE	000 ~ 127	063(FIXED)
S13	VIDEO	CONT TRACKING	000 ~ 031	016(FIXED)

##### [WHITE BALANCE BLOCK]

Item	Input signal	Contents	Variable range	Initial value
W01	VIDEO	R CUTOFF	000 ~ 255	050
W02		G CUTOFF	000 ~ 255	050
W03		B CUTOFF	000 ~ 255	050
W04		R DRIVE (6500)	000 ~ 127	062
W05		B DRIVE (6500)	000 ~ 127	048
W06		R DRIVE (9300)	000 ~ 127	078
W07		B DRIVE (9300)	000 ~ 127	066
W08	COMPONENT	R CUTOFF	-128 ~ 000 ~ +127	000
W09		G CUTOFF	-128 ~ 000 ~ +127	000
W10		B CUTOFF	-128 ~ 000 ~ +127	000
W11		R DRIVE (6500)	-128 ~ 000 ~ +127	000
W12		B DRIVE (9300)	-128 ~ 000 ~ +127	000
W13		R DRIVE (6500)	-128 ~ 000 ~ +127	000
W14		B DRIVE (9300)	-128 ~ 000 ~ +127	000
W15	RGB	R CUTOFF	-128 ~ 000 ~ +127	000
W16		G CUTOFF	-128 ~ 000 ~ +127	000
W17		B CUTOFF	-128 ~ 000 ~ +127	000
W18		R DRIVE (6500)	-128 ~ 000 ~ +127	000
W19		B DRIVE (9300)	-128 ~ 000 ~ +127	000
W20		R DRIVE (6500)	-128 ~ 000 ~ +127	000
W21		B DRIVE (9300)	-128 ~ 000 ~ +127	000
W22	VIDEO	UNDER SCAN R CUTOFF	-128 ~ 000 ~ +127	000
W23		UNDER SCAN G CUTOFF	-128 ~ 000 ~ +127	000
W24		UNDER SCAN B CUTOFF	-128 ~ 000 ~ +127	000

[DEFLECTION BLOCK]

Item	Aspect ratio/ Scan size	Vertical frequency	Contents	Variable range	Initial value
D01	4:3 NORMAL	50Hz	HORIZONTAL POSITION	000 ~ 031	012
D02			HORIZONTAL SIZE	000 ~ 063	040
D03			VERTICAL POSITION	000 ~ 127	041
D04			VERTICAL SIZE	000 ~ 127	058
D05			VERTICAL LINEARITY	000 ~ 031	025
D06			VERTICAL S-CORRECTION	000 ~ 063	040
D07			SIDE PIN PARABOLA	000 ~ 063	030
D08			SIDE PIN CORNER	000 ~ 031	018
DA1	4:3 NORMAL	60Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	+002
DA2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	-4
DA3			VERTICAL POSITION	-128 ~ 000 ~ +127	+002
DA4			VERTICAL SIZE	-128 ~ 000 ~ +127	000
DA5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	-1
DA6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	000
DA7			SIDE PIN PARABOLA	-064 ~ 000 ~ +063	+001
DA8			SIDE PIN CORNER	-032 ~ 000 ~ +031	+001
DB1	16:9 NORMAL	50Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	000
DB2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	000
DB3			VERTICAL POSITION	-128 ~ 000 ~ +127	000
DB4			VERTICAL SIZE	-128 ~ 000 ~ +127	-28
DB5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	000
DB6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	000
DB7			SIDE PIN PARABOLA	-064 ~ 000 ~ +063	-11
DB8			SIDE PIN CORNER	-032 ~ 000 ~ +031	000
DC1	16:9 NORMAL	60Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	000
DC2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	000
DC3			VERTICAL POSITION	-128 ~ 000 ~ +127	000
DC4			VERTICAL SIZE	-128 ~ 000 ~ +127	-27
DC5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	000
DC6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	-1
DC7			SIDE PIN PARABOLA	-064 ~ 000 ~ +063	-12
DC8			SIDE PIN CORNER	-032 ~ 000 ~ +031	-1
DD1	4:3 UNDER SCAN	50Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	000
DD2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	-7
DD3			VERTICAL POSITION	-128 ~ 000 ~ +127	000
DD4			VERTICAL SIZE	-128 ~ 000 ~ +127	-3
DD5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	000
DD6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	000
DD7			SIDE PIN PARABOLA	-064 ~ 000 ~ +063	-19
DD8			SIDE PIN CORNER	-032 ~ 000 ~ +031	-1
DE1	4:3 UNDER SCAN	60Hz	HORIZONTAL POSITION	-032 ~ 000 ~ +031	000
DE2			HORIZONTAL SIZE	-064 ~ 000 ~ +063	-6
DE3			VERTICAL POSITION	-128 ~ 000 ~ +127	000
DE4			VERTICAL SIZE	-128 ~ 000 ~ +127	-2
DE5			VERTICAL LINEARITY	-032 ~ 000 ~ +031	000
DE6			VERTICAL S-CORRECTION	-064 ~ 000 ~ +063	000
DE7			SIDE PIN PARABOLA	-064 ~ 000 ~ +063	-20
DE8			SIDE PIN CORNER	-032 ~ 000 ~ +031	-2
DF7	16:9 UNDER SCAN	50Hz	SIDE PIN PARABOLA	-064 ~ 000 ~ +063	+007
DF8			SIDE PIN CORNER	-032 ~ 000 ~ +031	000
DG7	16:9 UNDER SCAN	60Hz	SIDE PIN PARABOLA	-064 ~ 000 ~ +063	+008
DG8			SIDE PIN CORNER	-032 ~ 000 ~ +031	+001

## [CONTROL BLOCK]

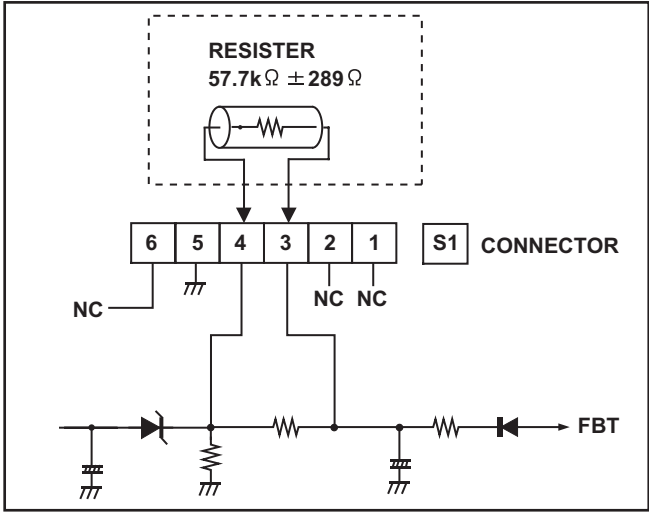
Item.	Contents		Variable range	Initial value
C01	DESTINATION		000 ~ 129	001(US/EU)
C02	BRIGHT POINT	UPPER	000 ~ 255	016
C03		LOWER	000 ~ 255	026
C04	CONTRAST POINT	UPPER	000 ~ 127	016
C05		LOWER	000 ~ 127	026
C06	CHROMA POINT	UPPER	000 ~ 127	040
C07		LOWER	000 ~ 127	040
C08	PHASE POINT	UPPER	000 ~ 127	040
C09		LOWER	000 ~ 127	040
C10	OSD HORIZONTAL POSITION		000 ~ 010	000
C11	OSD VERTICAL FREQUENCY 50Hz		000 ~ 010	004
C12	OSD VERTICAL FREQUENCY 60Hz		000 ~ 010	002
C13	HORIZONTAL CENTER (RGB)		-128 ~ 000 ~ +127	+007
C14	HORIZONTAL CENTER (COMPONENT)		-128 ~ 000 ~ +127	+002
C15	BRIGHT SERVICE		000 ~ 127	000
C16	SHARPNESS CENTER		000 ~ 127	028
C17	HVT H		000 ~ 007	007
C18	HVT V		000 ~ 007	003
C19	HVT H (UNDER SCAN)		000 ~ 007	004
C20	HVT V (UNDER SCAN)		000 ~ 007	002
C21	V-SS.CR		000 ~ 015	005
C22	TRAPEZOID		000 ~ 127	068
C23	HOUR METER		001 ~ 650	001
C24	RUSH DELAY		000 ~ 255	032
C25	DEGAUSS DELAY TIME		000 ~ 255	011
C26	SLOT IDENTIFY		000 ~ 255	000
C27	SLOT IDENTIFY		000 ~ 255	066
C28	SLOT IDENTIFY		000 ~ 255	000
C29	SLOT IDENTIFY		000 ~ 255	001
C30	SLOT IDENTIFY		000 ~ 255	000
C31	SLOT IDENTIFY		000 ~ 255	000
C32	SLOT IDENTIFY		000 ~ 255	000
C33	SLOT IDENTIFY		000 ~ 255	000
C34	LANDING ENABLE		000/001	000
C35	LANDING START		000/001	000

### 4.9 INITIAL SETTING VALUE OF LANDING MENU

Item	Contents	Variable range	Initial value
- - -	LANDING CORRECTION	-08 ~ 00 ~ +08	00

4.10 ADJUSTMENT PROCEDURE

4.10.1 CHECK ITEM

Item	Measuring instrument	Test points	Adjustment part	Description
HIGH VOLTAGE check	HV voltmeter	CRT anode	SCREEN VR [in FBT]	(1) Receive a whole black signal. (2) Connect the HV voltmeter to the CRT anode and check it as 25.0kV±1.3kV.
HIGH VOLTAGE HOLD DOWN check	HV voltmeter  Resistor (57.7kΩ, ±289Ω)	S1 3-pin: X-RAY1 S1 4-pin: X-RAY2 [SUB DEF.PWB]		<ul style="list-style-type: none"><li>After repairing the high voltage hold down circuit, this circuit shall be checked to operate correctly. (1) Receive a whole black signal. (2) Turn the power switch on. (3) Refer to the figure, connect the resistor between S1 connector 3-pin and 4-pin. (4) Make sure that the screen picture disappears. (5) Disconnect the power plug. (6) Remove the resistor. (7) Again connect the power plug. (8) Turn the power switch to on. (9) Make sure that the normal picture is displayed on the screen.</li></ul>
				



#### 4.10.2 B1 VOLTAGE

Item	Measuring instrument	Test points	Adjustment part	Description
<b>B1 VOLTAGE</b>	Signal generator  DC voltmeter	TP-B1  TP-E(GND) (E2)  [MAIN PWB]	B1 ADJ VR (VR1901) [MAIN PWB]  SCREEN VR [in FBT]	(1) Receive a whole black signal. (2) Connect a DC voltmeter to TP-B1 and TP-E(↗). (3) Adjust the B1 ADJ VR(VR1901) so that B1 voltage is at $53V \pm 0.2V$ . (4) If B1 voltage is out of range, adjust it with B1 ADJ VR(VR1901).

#### 4.10.3 FOCUS

Item	Measuring instrument	Test points	Adjustment part	Description
<b>FOCUS</b>	Signal generator		FOCUS 1 VR FOCUS 2 VR [In FBT]	(1) Input the crosshatch pattern signal. (2) Adjust the FOCUS 1 VR (Vertical line) and FOCUS 2 VR (Horizontal line) for optimum focus where moire is not apparent. (3) Darken the picture and adjust the focus by turning counter-clockwise from the position where focus is poor. (4) Alternately repeat the above steps to obtain the optimum position.

4.10.4 VIDEO CIRCUIT

When you perform WHITE BALANCE adjustment, be sure to input a video composite signal. Moreover, set the aspect ratio to 4:3. It is no requirement to adjust in 16:9 mode.

Item	Measuring instrument	Test points	Adjustment part	Description
WHITE BALANCE LOW LIGHT	Signal generator		SCREEN VR [in FBT]  [WHITE BALANCE BLOCK] W01 : R CUTOFF W02 : G CUTOFF W03 : B CUTOFF	<ul style="list-style-type: none"><li>After checking that the voltage of B1 power supply voltage is right.<ul style="list-style-type: none"><li>(1) Input the gray scale signal.</li><li>(2) Select the WHITE BALANCE BLOCK with [CONTRAST/BRIGHT] button (&lt; W/B &gt;) from &lt; BLOCK SELECT &gt; SERVICE MENU screen.</li><li>(3) Select the &lt; W01 &gt;~&lt; W07 &gt; adjust mode with[VOLUME/SELECT + (UP)] button (&lt; W01 &gt;).</li><li>(4) Confirm the initial setting value of &lt; W01 &gt;(R CUTOFF), &lt; W02 &gt;(G CUTOFF) and &lt; W03 &gt;(B CUTOFF) are 50 as shown below.</li><li>(5) Exit the &lt; W01 &gt;~&lt; W07 &gt; adjust mode with [MENU] button (&lt; EXIT &gt;).</li><li>(6) Select the CUTOFF adjustment mode with [CHROMA/PHASE] button (&lt; CUTO &gt;) from &lt; WHITE BALANCE BLOCK &gt; screen.</li><li>(7) Display the single horizontal line with [CONTRAST/ BRIGHT] button (&lt; SERV &gt;). Carefully adjust the SCREEN VR to horizontal line appears faintly, not to shine much.</li><li>(8) Gradually turn the SCREEN VR from the left to the right direction to bring one of the red, green and blue colors faintly visible.</li><li>(9) Then select R, G or B color with [CHROMA/PHASE] button (&lt; RGB &gt;) that color except for appears first, and adjusting 2 colors CUTOFF values, and make single horizontal line visible white.</li><li>(10) Readjust the SCREEN VR to appear the single horizontal line faintly.</li><li>(11) Cancel the single horizontal line with [CONTRAST/ PHASE] button (&lt; SERV &gt;).</li><li>(12) Exit the WHITE BALANCE BLOCK with [MENU] button (&lt; EXIT &gt;).</li></ul></li></ul>

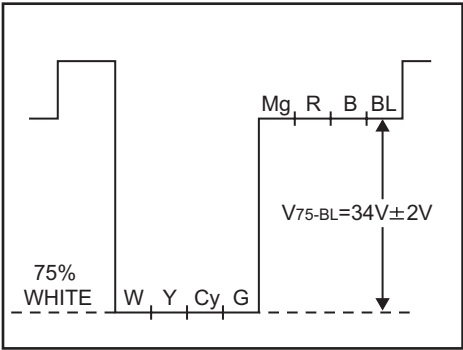
WHITE BALANCE BLOCK

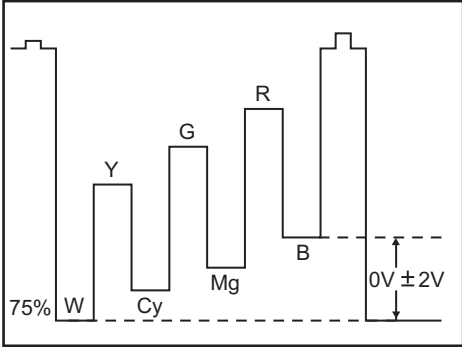
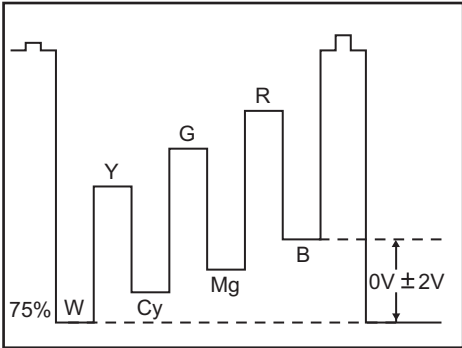
W01~W07 ITEM ADJUST MODE

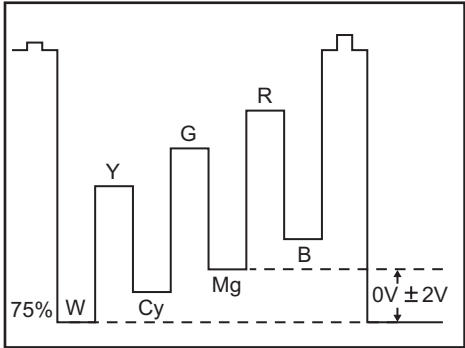
CUTOFF ADJUSTMENT MODE

Item	Initial setting value
<W01> R CUTOFF	50
<W02> G CUTOFF	50
<W03> B CUTOFF	50

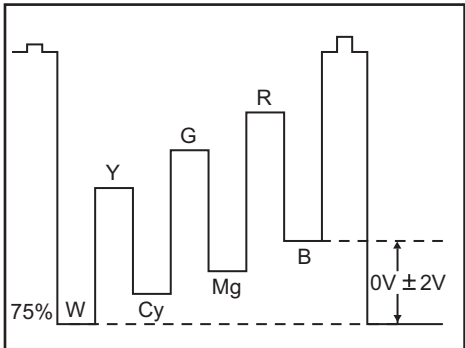
Item	Measuring instrument	Test points	Adjustment part	Description
<b>6500K WHITE BALANCE HIGH LIGHT</b>	Signal generator  Color analyser (Color temperature meter)		[WHITE BALANCE BLOCK] W04 : R DRIVE W05 : B DRIVE	<ul style="list-style-type: none"> <li>Check the LOW LIGHT adjustment has been finished correctly before performing HIGH LIGHT adjustment.               <ol style="list-style-type: none"> <li>Input the gray scale signal.</li> <li>Select the WHITE BALANCE BLOCK mode with [CONTRAST/BRIGHT] button (&lt; W/B &gt;) from &lt; BLOCK SELECT &gt; SERVICE MENU screen.</li> <li>Select the &lt; W01 &gt; ~ &lt; W07 &gt; adjust mode with [VOLUME/SELECT +] button (&lt; W01 &gt;).</li> <li>Apply the sensor of the color analyser to the CRT surface, portion of the 100% white.</li> <li>Adjust the &lt; W04 &gt; (R DRIVE) or &lt; W05 &gt; (B DRIVE) to setting 6500K (X=0.313, Y=0.329) by pressing [CHROMA/PHASE] button (&lt; R-B &gt;) alternately.</li> <li>Exit the WHITE BALANCE BLOCK with [MENU] button (&lt; EXIT &gt;).</li> </ol> </li> </ul>
<b>9300K WHITE BALANCE HIGH LIGHT</b>	Signal generator  Color analyser (Color temperature meter)		[WHITE BALANCE BLOCK] W06 : R DRIVE W07 : B DRIVE	<ul style="list-style-type: none"> <li>Check the LOW LIGHT adjustment has been finished correctly before performing HIGH LIGHT adjustment.               <ol style="list-style-type: none"> <li>Input the gray scale signal.</li> <li>Select the WHITE BALANCE BLOCK mode with [CONTRAST/BRIGHT] button (&lt; W/B &gt;) from &lt; BLOCK SELECT &gt; SERVICE MENU screen.</li> <li>Select the &lt; W01 &gt; ~ &lt; W07 &gt; adjust mode with [VOLUME/SELECT +] button (&lt; W01 &gt;).</li> <li>Apply the sensor of the color analyser to the CRT surface, portion of the 100% white.</li> <li>Adjust the &lt; 9300 R DRIVE &gt; or &lt; 9300 B DRIVE &gt; to setting 9300K (X=0.283, Y=0.297) by pressing [CHROMA/PHASE] button (&lt; R-B &gt;) alternately.</li> <li>Exit the WHITE BALANCE BLOCK with [MENU] button (&lt; EXIT &gt;).</li> </ol> </li> </ul>

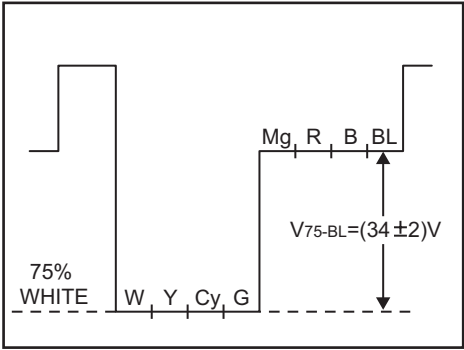
Item	Measuring instrument	Test points	Adjustment part	Description
<b>BRIGHT</b>	Signal generator		[SIGNAL BLOCK] S01 : BRIGHT	<ul style="list-style-type: none"> <li>Under the condition that LOW LIGHT adjustment has been correctly finished.</li> <li>(1) Input the gray scale signal.</li> <li>(2) Select the SIGNAL BLOCK with [CHROMA / PHASE] button (&lt; SIG &gt;) from &lt; BLOCK SELECT &gt; screen.</li> <li>(3) Select &lt; S01 &gt;(BRIGHT).</li> <li>(4) Adjust the &lt; S01 &gt; to where the 0% black part component faintly brightens.</li> <li>(5) Check the BRIGHT adjustment by alternately turning the screen display in WHITE BALANCE BLOCK &lt; CUTOFF &gt; mode.</li> <li>(6) Check the LOW LIGHT adjustment has been finished correctly before performing HIGH LIGHT adjustment.</li> </ul>
<b>CONTRAST</b>	Signal generator  Oscilloscope	TP-47G TP-E [CRT SOCKET PWB]	[SIGNAL BLOCK] S02 : CONTRAST	<ul style="list-style-type: none"> <li>(1) Input the full color bar signal (75% white)</li> <li>(2) Connect the oscilloscope to TP-47G and TP-E.</li> <li>(3) Select the SIGNAL BLOCK with [CHROMA / PHASE] button (&lt; SIG &gt;) from &lt; BLOCK SELECT &gt; screen.</li> <li>(4) Select the &lt; S02 &gt;(CONTRAST).</li> <li>(5) Adjust the &lt; S02 &gt; to become the voltage different between 75% white and 0% black to <math>34V \pm 2V</math> as shown in figure.</li> </ul>
				

Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure
<b>PAL CHROMA</b>	Signal generator Oscilloscope	TP-47B TP-E [CRT SOCKET PWB]	[SIGNAL BLOCK] S03 : PAL CHROMA	<ol style="list-style-type: none"> <li>(1) Input the PAL color bar signal (75% white).</li> <li>(2) Connect the oscilloscope to TP-47B and TP-E.</li> <li>(3) Select the SIGNAL BLOCK with [CHROMA/PHASE] button (&lt; SIG &gt;) from &lt; BLOCK SELECT &gt; screen.</li> <li>(4) Select the &lt; S03 &gt;(PAL CHROMA).</li> <li>(5) Adjust the &lt; S03 &gt; to become the voltage different between 75% white and blue to <math>0V \pm 2V</math> as shown in figure.</li> </ol>
				
<b>NTSC CHROMA</b>	Signal generator Oscilloscope	TP-47B TP-E [CRT SOCKET PWB]	[SIGNAL BLOCK] S04: NTSC CHROMA	<ol style="list-style-type: none"> <li>(1) Input the NTSC full color bar signal (75% white).</li> <li>(2) Connect the oscilloscope to TP-47B and TP-E.</li> <li>(3) Select the SIGNAL BLOCK with [CHROMA/PHASE] button (&lt; SIG &gt;) from &lt; BLOCK SELECT &gt; screen.</li> <li>(4) Select the &lt; S04 &gt;(NTSC CHROMA).</li> <li>(5) Adjust the &lt; S04 &gt; to become the voltage different between 75% white and blue to <math>0V \pm 2V</math> as shown in figure.</li> </ol>
				

Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure
<b>NTSC PHASE</b>	Signal generator  Oscilloscope	TP-47B TP-E [CRT SOCKET PWB]	[SIGNAL BLOCK] S05: NTSC PHASE	(1) Input the NTSC color bar signal (75% white). (2) Connect the oscilloscope to TP-47B and TP-E. (3) Select the SIGNAL BLOCK with [CHROMA/PHASE] button (< SIG >) from < BLOCK SELECT > screen. (4) Select the < S05 >(NTSC PHASE). (5) Adjust the < S05 > to become the voltage different between white and magenta to $0V \pm 2V$ as shown in figure.
				

The following 3 items (COMPONENT SIGNAL CHROMA, RGB SIGNAL BRIGHT, RGB SIGNAL CONTRAST) are performed when having equipped with the OPTION CARD (IF-C01COMG). When the Component / RGB input card (IF-C01COMG) is inserted to the rear slot, turn off the main power switch on the rear panel.

Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure
<b>COMPONENT CHROMA</b>	Component / RGB input card (IF-C01COMG)  Signal generator  Oscilloscope	TP-47B TP-E [CRT SOCKET PWB]	[SIGNAL BLOCK] S06:COMPONENT CHROMA	(1) Input the COMPONENT color bar signal (100/0/100/0 interface) to the each terminal of the Component / RGB input card. (2) In case of using the composite sync. signal, input the sync. signal to the HD/Cs terminal only. But in case of using the separate sync. signal, input the horizontal sync. signal to the HD/Cs terminal and vertical sync. signal to the VD terminal. (3) Select the INPUT SELECT < SLOT D >. (4) Connect the oscilloscope to TP-47B and TP-E. (5) Select the SIGNAL BLOCK. (6) Select the < S06 > (COMPONENT CHROMA). (7) Adjust the < S06 > to become the voltage different between 75% white and blue to $0V \pm 2V$ as shown in figure.
				

Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure
<b>RGB BRIGHT</b>	Component / RGB input card (IF-C01COMG)  Signal generator		[SIGNAL BLOCK] S07 : RGB BRIGHT	(1) Input the whole black signal to the each terminal of the Component / RGB input card. (2) In case of using the composite sync. signal, input the sync. signal to the HD/Cs terminal only. But in case of using the separate sync. signal, input the horizontal sync. signal to the HD/Cs terminal and vertical sync. signal to the VD terminal. (3) Select the INPUT SELECT < SLOT D >. (4) Select the SIGNAL BLOCK. (5) Select the < S07 >(RGB BRIGHT). (6) Adjust the < S07 > to where the sprit color bar 0% black component faintly brightens. (7) Check it out by pressing the [DISP] button on and off.
<b>RGB CONTRAST</b>	Component / RGB input card (IF-C01COMG)  Signal generator  Oscilloscope	TP-47G TP-E [CRT SOCKET PWB]	[SIGNAL BLOCK] S08 : RGB CONTRAST	(1) Input the RGB color bar signal (75% white) to the each terminal of the Component / RGB input card. (2) In case of using the composite sync. signal, input the sync. signal to the HD/Cs terminal only. But in case of using the separate sync. signal, input the horizontal sync. signal to the HD/Cs terminal and vertical sync. signal to the VD terminal. (3) Select the INPUT SELECT < SLOT D >. (4) Connect the oscilloscope to TP-47G and TP-E. (5) Select the SIGNAL BLOCK. (6) Select the < S08 >(RGB CONTRAST). (7) Adjust the < S08 > to become the voltage different between 75% white and blue to $34V \pm 2V$ as shown in figure.
				

#### 4.10.5 DEFLECTION CIRCUIT

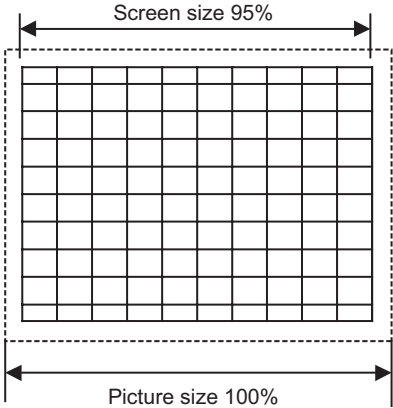
There are 2 kind of adjustment for the DEFLECTION circuit, PAL and NTSC. The adjustment using PAL signal is as the standard of all DEFLECTION adjustment. The "#" mark in the table given below expresses the number of each adjustment item. The screen aspect ratio 4 : 3 at 50Hz (PAL) is regarded as the reference value for all adjustments. The other values obtained in the adjustments using other signals become the offset values as opposed to the reference values.

**Therefore, the adjustments must always be carried out in order of PAL and NTSC.** When it does not adjust in this turn, and when operation which is different by the middle is carried out, it is necessary to readjust from the beginning.

Mode			Display
Aspect ratio	Scan size	Vertical frequency	
4:3	NORMAL SCAN	50Hz(PAL)	D0#
		60Hz(NTSC)	DA#
16:9	NORMAL SCAN	50Hz(PAL)	DB#
		60Hz(NTSC)	DC#
4:3	UNDER SCAN	50Hz(PAL)	DD#
		60Hz(NTSC)	DE#
16:9	UNDER SCAN	50Hz(PAL)	DF7, DF8
		60Hz(NTSC)	DG7, DG8

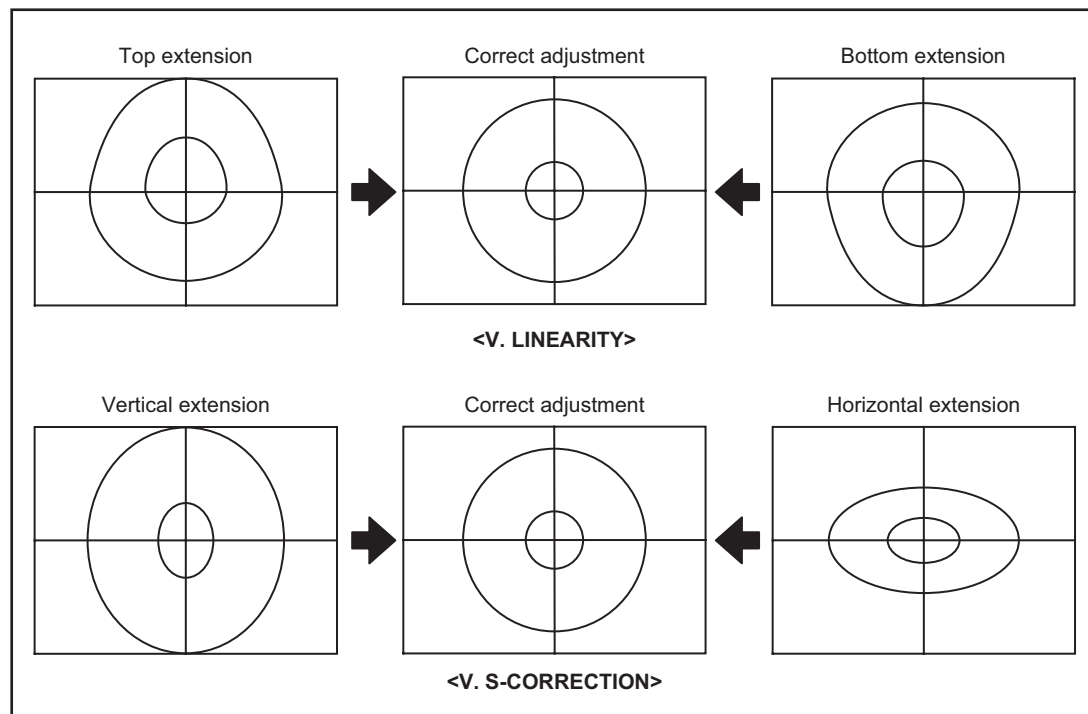
Although the procedure is described about the adjustment at the time of inputting a PAL signal into below, please perform adjustment which inputs an NTSC signal continuously.

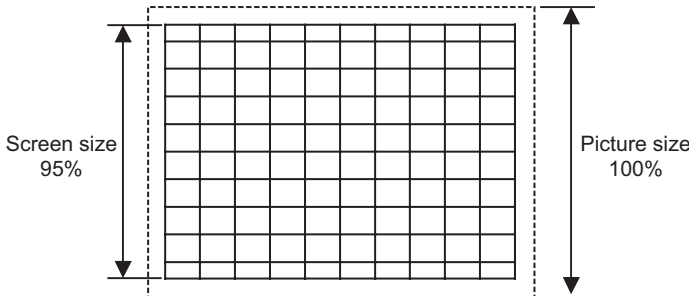
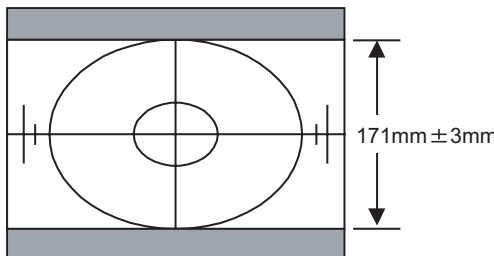
However, about each adjustment item of "Vertical center", "Vertical linearity", "16:9 Vertical size" and "Horizontal size and center at the time of under scan mode", **it considers as the adjustment only to a PAL signal, and adjustment with an NTSC signal is not required.**

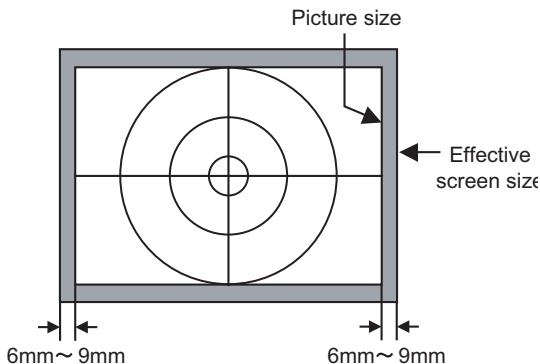
Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure
<b>H. POSITION / H. SIZE</b>	Signal generator		[DEFLECTION BLOCK] D01 : H. CENTER D02 : H. SIZE	(1) Input the PAL crosshatch signal. (2) Select DEFLECTION BLOCK with [VOLUME /SELECT - ] button (< DEF >) from < BLOCK SELECT > SERVICE MENU screen. (3) Adjust < D01 >(H.CENTER) to align the picture center with the CRT center. (4) Adjust < D02 >(H. SIZE) to set horizontal size to 95%. (5) Repeat above step 4 and 5 to adjust correctly.
				
<b>4:3 SIDE PINCUSHION</b>	Signal generator		[DEFLECTION BLOCK] D07 : SIDE PIN PARABOLA D08 : SIDE PIN CORNER	(1) Input the PAL crosshatch signal. (2) Confirm the side pincushion of the four corners in the screen. (3) If not optimum, adjust < D07 >(SIDE PIN PARABOLA) and < D08 >(SIDE PIN CORNER) to become correctly.



Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure
<b>V. POSITION</b>	Signal generator		[DEFLECTION BLOCK] D03 : V. POSITION	(1) Input the PAL circle pattern signal. (2) Adjust < D03 >(V. POSITION) to agree with CRT center and signal center of vertical direction.
<b>V. LINEARITY / V. S-CORRECTION</b>	Signal generator		[DEFLECTION BLOCK] D04 : V.SIZE D05 : V.LIN D06 : V. S-COR	(1) Input the PAL circle pattern signal. (2) Confirm < D04 >(V. SIZE) about 100% for linearity adjustment. (3) Adjust < D05 >(V. LIN) to become correctly about vertical size and vertical linearity. (4) Adjust < D06 >(V. S-COR) that circle pattern becomes the true circle at top and bottom of the screen.



Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure		
4:3 V. SIZE	Signal generator		[DEFLECTION BLOCK] D04 : V.SIZE	(1) Input the PAL crosshatch signal. (2) Adjust < D04 >(V. SIZE) to become the vertical scan size to 95%.		
<div></div>						
16:9 V. SIZE	Signal generator		[DEFLECTION BLOCK] DB04 : V. SIZE	(1) Input the PAL circle pattern signal. (2) Select the aspect ratio to the 16:9 mode. (3) Adjust < DB04 >(V. SIZE) to the vertical size become the value given below.		
<div></div>				<table><tr><td>Vertical size</td><td>171mm ± 3mm</td></tr></table>	Vertical size	171mm ± 3mm
Vertical size	171mm ± 3mm					
16:9 SIDE PINCUSHION	Signal generator		[DEFLECTION BLOCK] DB07 : SIDEPIN PARABOLA DB08 : SIDEPIN CORNER	(1) Input the PAL crosshatch signal (2) Select the aspect ratio to the 16:9 mode. (3) Confirm the side pincushion of the four corners in the screen. (4) If not optimum, adjust < DB07 >(SIDEPIN PARABOLA) and < DB08 >(SIDEPIN CORNER) to become correctly.		

Item	Measuring instrument	Test points	Adjustment part	Adjustment procedure		
UNDERSCAN H. POSITION / H. SIZE	Signal generator		[DEFLECTION BLOCK] DD1 : H. CENTER DD2 : H. SIZE	(1) Input the PAL circle pattern signal. (2) Select the aspect ratio to the 4:3 mode. (3) Select the underscan mode to ON. (4) Adjust the < DD1 >(H. CENTER) to the left and right blanking width become equal. (5) Adjust the < DD2 >(H. SIZE) to the left and right blanking widths become the value given below.		
<div></div>				<table><tr><td><b>Horizontal Blanking Width (one side of screen)</b></td><td>6mm ~ 9mm</td></tr></table>	<b>Horizontal Blanking Width (one side of screen)</b>	6mm ~ 9mm
<b>Horizontal Blanking Width (one side of screen)</b>	6mm ~ 9mm					
4:3 UNDERSCAN SIDE PINCUSHION	Signal generator		[DEFLECTION BLOCK] DD7 : SIDEPIN PARABOLA DD8 : SIDEPIN CORNER	(1) Input the PAL crosshatch signal. (2) Select the aspect not to the 4:3 mode. (3) Select the underscan mode to ON. (4) Confirm the side pincushion of the four corners in the screen. (5) If not optimum, adjust < DD7 >(SIDEPIN PARABOLA) and < DD8 >(SIDEPIN CORNER) to become correctly. (6) If the warps are happened by adjust the side pincushion, readjust the above-mentioned < DD1 > and < DD2 >.		
16:9 UNDERSCAN SIDE PINCUSHION	Signal generator		[DEFLECTION BLOCK] DD7 : SIDEPIN PARABOLA DD8 : SIDEPIN CORNER	(1) Input the PAL crosshatch signal. (2) Select the aspect ratio to the 16:9 mode. (3) Select the underscan mode to ON. (4) Confirm the side pincushion of the four corners in the screen. (5) If not optimum, adjust < DF7 >(SIDEPIN PARABOLA) and < DF8 >(SIDEPIN CORNER) to become correctly. (6) If the warps are happened by adjust the side pincushion, readjust the above-mentioned < DD1 > and < DD2 >.		

## SECTION 5 TROUBLE SHOOTING

### 5.1 OUTLINE

This model includes a SELF DIAGNOSIS FUNCTION that checks the circuit operating status and in event of malfunction, displays and stores the data in a memory. The data are stored in memory.

Fault detection starts with the I<sup>2</sup>C bus and is performed according to the input states of the control lines connected to the MAIN CPU.

### 5.2 USAGE

#### 5.2.1 SELF DIAGNOSIS FUNCTION MODE ENTRY

- (1) While press the [MENU] button and [CONTRAST/BRIGHT] button simultaneously, and push the POWER switch to turn on.
- (2) Then displays the SELF-DIAGNOSIS FUNCTION screen. Make sure all items of this MENU are "O" (Fig.1).
- (3) If "X" is in items (Fig.2), press the [MENU] button and [VOLUME /SELECT - (DOWN)] button at same time.

#### 5.2.2 CONTENTS

Check item	Detected contents	Detection method	Cause
B1	The over-current of B1 line is checked and vertical oscillation is checked.	It will be detect the B1-PRO port in IC6701 51-pin on SIGNAL PWB.	Destruction of a level oscillation transistor Q1521 on MAIN PWB can be considered. Vertical oscillation Destruction of a vertical out IC1401 on MAIN PWB can be considered.
X-RAY	The unusual rise of CRT anode voltage is checked.	IC6701 50-pin on SIGNAL PWB	Destruction of a resonance capacitor (C2521, C2522, C2528) on SUB DEF PWB or FBT T1551 on MAIN PWB can be considered.

- If in event malfunction at RASTER not display, at this time POWER LED flashes.

Cause	Led flashing cycle
<b>X-RAY PROTECTION</b>	Quickly (0.1 sec on / 0.1 sec off cycles)
<b>B1 OVER CURRENT PROTECTION</b>	Slowly (1.0 sec on / 1.0 sec off cycles)

#### 5.2.3 SELF DIAGNOSIS FUNCTION MODE RELEASE

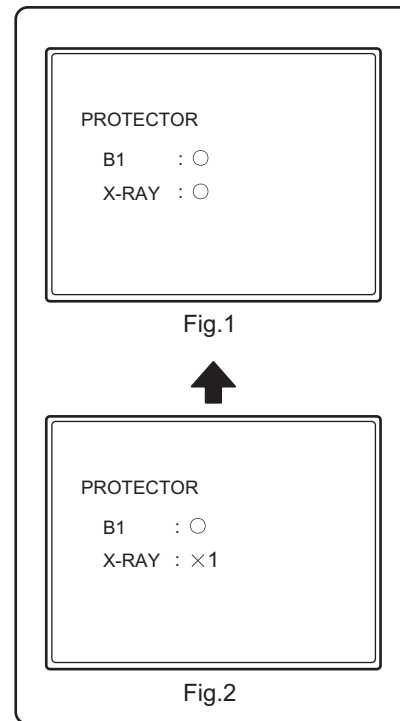
Turn the POWER switch off or disconnect the power plug from AC outlet. In this way, not to clear the error counts.

#### 5.2.4 RESET THE ERROR COUNT

- (1) While press the [MENU] button and [CHROMA/PHASE] button simultaneously, and push the MAIN POWER switch on.
- (2) Then displays the screen as shown in Fig.3. Press the [ + ] key. Then clear the error count of the each item.

#### 5.2.5 FAULT HISTORY

The fault history counts up to a maximum of 9 times for each item. If the number of times exceeds 9, the display remains at 9. The fault history remains stored in the memory until deleted.



#### SELF DIAGNOSIS RESET

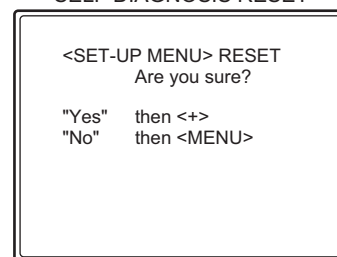



Fig.3

# TM-H150CG/E, TM-H150CG/U

## STANDARD CIRCUIT DIAGRAM

### ■ NOTE ON USING CIRCUIT DIAGRAMS

#### 1.SAFETY

The components identified by the  symbol and shading are critical for safety. For continued safety replace safety critical components only with manufactures recommended parts.

#### 2.SPECIFIED VOLTAGE AND WAVEFORM VALUES

The voltage and waveform values have been measured under the following conditions.

- (1)Input signal : Colour bar signal
- (2)Setting positions of each knob/button and variable resistor : Original setting position when shipped
- (3)Internal resistance of tester : DC 20k $\Omega$  /V
- (4)Oscilloscope sweeping time : H  $\Rightarrow$  20 $\mu$ s / div  
: V  $\Rightarrow$  5ms / div  
: Others  $\Rightarrow$  Sweeping time is specified
- (5)Voltage values : All DC voltage values

\* Since the voltage values of signal circuit vary to some extent according to adjustments, use them as reference values.

#### 3.INDICATION OF PARTS SYMBOL [EXAMPLE]

- In the PW board : R1209  $\rightarrow$  R209

#### 4.INDICATIONS ON THE CIRCUIT DIAGRAM

##### (1)Resistors

- Resistance value

No unit	: [ $\Omega$ ]
K	: [ k $\Omega$ ]
M	: [ M $\Omega$ ]

- Rated allowable power

No indication	: 1/16 [W]
Others	: As specified

- Type

No indication	: Carbon resistor
OMR	: Oxide metal film resistor
MFR	: Metal film resistor
MPR	: Metal plate resistor
UNFR	: Uninflammable resistor
FR	: Fusible resistor

\* Composition resistor 1/2 [W] is specified as 1/2S or Comp.

##### (2)Capacitors

- Capacitance value

1 or higher	: [pF]
less than 1	: [ $\mu$ F]

- Withstand voltage

No indication	: DC50[V]
Others	: DC withstand voltage [V]
AC indicated	: AC withstand voltage [V]

\* Electrolytic Capacitors

47/50[Example]: Capacitance value [ $\mu$ F]/withstand voltage[V]

- Type

No indication	: Ceramic capacitor
MM	: Metalized mylar capacitor
PP	: Polypropylene capacitor
MPP	: Metalized polypropylene capacitor
MF	: Metalized film capacitor
TF	: Thin film capacitor
BP	: Bipolar electrolytic capacitor
TAN	: Tantalum capacitor

##### (3)Coils

No unit	: [ $\mu$ H]
Others	: As specified

##### (4)Power Supply



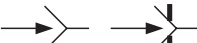
	: B1		: B2 (12V)
	: 9V		: 5V

\* Respective voltage values are indicated





##### (5)Test point

	: Test point		: Only test point display
---	--------------	---	---------------------------



##### (6)Connecting method

	: Connector		: Wrapping or soldering
	: Receptacle		

##### (7)Ground symbol

	: LIVE side ground
	: ISOLATED(NEUTRAL) side ground
	: EARTH ground
	: DIGITAL ground

#### 5.NOTE FOR REPAIRING SERVICE

This model's power circuit is partly different in the GND. The difference of the GND is shown by the LIVE : () side GND and the ISOLATED(NEUTRAL) : () side GND. Therefore, care must be taken for the following points.

- (1)Do not touch the LIVE side GND or the LIVE side GND and the ISOLATED(NEUTRAL) side GND simultaneously. if the above caution is not respected, an electric shock may be caused. Therefore, make sure that the power cord is surely removed from the receptacle when, for example, the chassis is pulled out.
- (2)Do not short between the LIVE side GND and ISOLATED(NEUTRAL) side GND or never measure with a measuring apparatus measure with a measuring apparatus ( oscilloscope, etc.) the LIVE side GND and ISOLATED(NEUTRAL) side GND at the same time. If the above precaution is not respected, a fuse or any parts will be broken.

◆ Since the circuit diagram is a standard one, the circuit and circuit constants may be subject to change for improvement without any notice.

##### NOTE

◆ Due improvement in performance, some part numbers show in the circuit diagram may not agree with those indicated in the part list.

When ordering parts, please use the numbers that appear in the Parts List.

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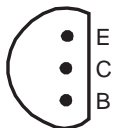

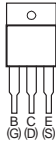
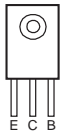

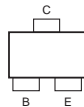
SLOT PWB PATTERN ..... 2-25

CRT SOCKET PWB PATTERN ..... 2-27


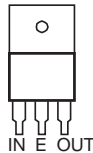
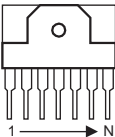
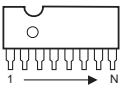
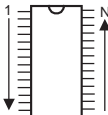
SUB DEF PWB PATTERN ..... 2-28

SEMICONDUCTOR SHAPES

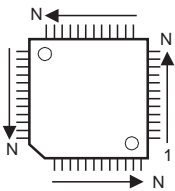
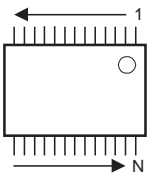
TRANSISTOR

BOTTOM VIEW	FRONT VIEW				TOP VIEW
					CHIP TR 

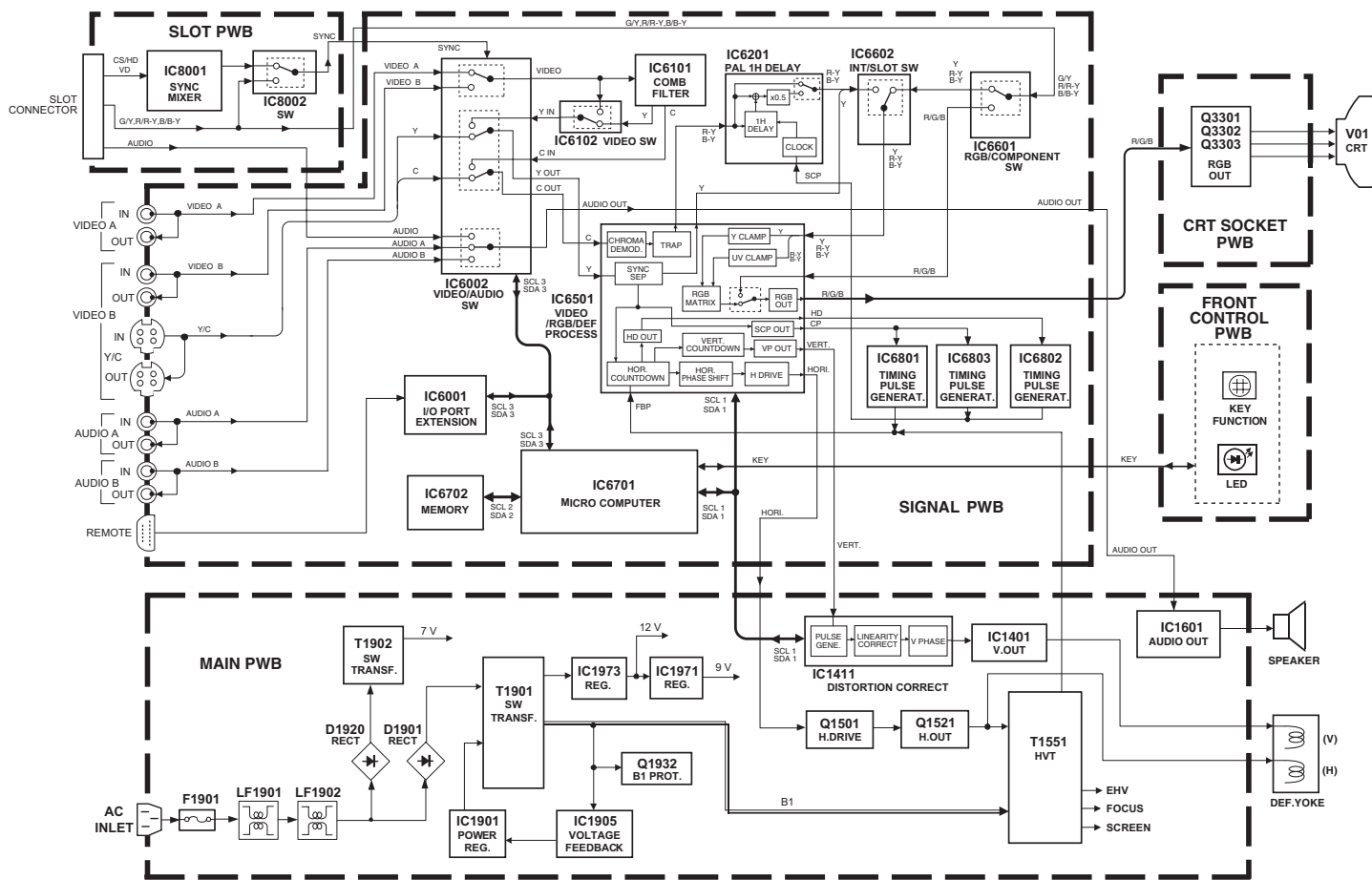
IC

BOTTOM VIEW	FRONT VIEW			TOP VIEW
				

CHIP IC

TOP VIEW		
		

# BLOCK DIAGRAM



No.YA068

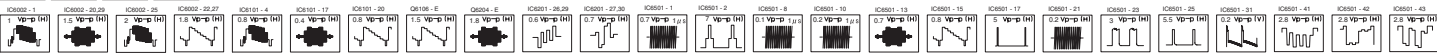
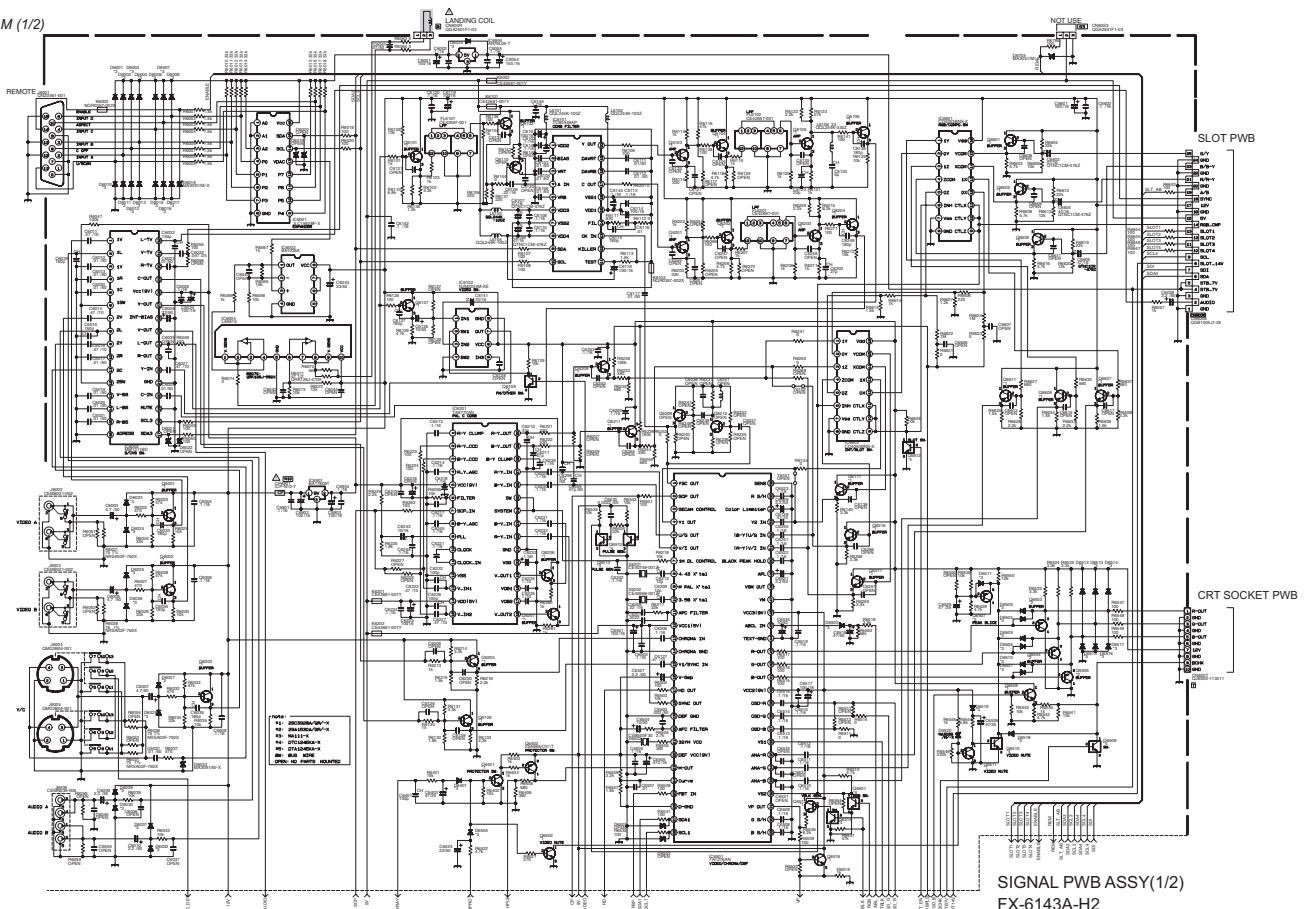
2-3

2-4

No.YA068

CIRCUIT DIAGRAMS  
SIGNAL PWB CIRCUIT DIAGRAM (1/2)

IC	DC IN	DC IN	DC IN	DC IN	DC IN
1	0	0	0	0	11.9
2	0	0	0	0	0.3
3	4.3	0	0	0	0
4	4.3	0	0	0	0
5	4.3	0	0	0	0
6	4.3	0	0	0	0
7	4.3	0	0	0	0
8	4.3	0	0	0	0
9	4.3	0	0	0	0
10	4.3	0	0	0	0
11	4.3	0	0	0	0
12	4.3	0	0	0	0
13	4.3	0	0	0	0
14	4.3	0	0	0	0
15	4.3	0	0	0	0
16	4.3	0	0	0	0
17	4.3	0	0	0	0
18	4.3	0	0	0	0
19	4.3	0	0	0	0
20	4.3	0	0	0	0
21	4.3	0	0	0	0
22	4.3	0	0	0	0
23	4.3	0	0	0	0
24	4.3	0	0	0	0
25	4.3	0	0	0	0
26	4.3	0	0	0	0
27	4.3	0	0	0	0
28	4.3	0	0	0	0
29	4.3	0	0	0	0
30	4.3	0	0	0	0
31	4.3	0	0	0	0
32	4.3	0	0	0	0
33	4.3	0	0	0	0
34	4.3	0	0	0	0
35	4.3	0	0	0	0
36	4.3	0	0	0	0
37	4.3	0	0	0	0
38	4.3	0	0	0	0
39	4.3	0	0	0	0
40	4.3	0	0	0	0
41	4.3	0	0	0	0
42	4.3	0	0	0	0
43	4.3	0	0	0	0
44	4.3	0	0	0	0
45	4.3	0	0	0	0
46	4.3	0	0	0	0
47	4.3	0	0	0	0
48	4.3	0	0	0	0
49	4.3	0	0	0	0
50	4.3	0	0	0	0
51	4.3	0	0	0	0
52	4.3	0	0	0	0
53	4.3	0	0	0	0
54	4.3	0	0	0	0
55	4.3	0	0	0	0
56	4.3	0	0	0	0
57	4.3	0	0	0	0
58	4.3	0	0	0	0
59	4.3	0	0	0	0
60	4.3	0	0	0	0
61	4.3	0	0	0	0
62	4.3	0	0	0	0
63	4.3	0	0	0	0
64	4.3	0	0	0	0
65	4.3	0	0	0	0
66	4.3	0	0	0	0
67	4.3	0	0	0	0
68	4.3	0	0	0	0
69	4.3	0	0	0	0
70	4.3	0	0	0	0
71	4.3	0	0	0	0
72	4.3	0	0	0	0
73	4.3	0	0	0	0
74	4.3	0	0	0	0
75	4.3	0	0	0	0
76	4.3	0	0	0	0
77	4.3	0	0	0	0
78	4.3	0	0	0	0
79	4.3	0	0	0	0
80	4.3	0	0	0	0
81	4.3	0	0	0	0
82	4.3	0	0	0	0
83	4.3	0	0	0	0
84	4.3	0	0	0	0
85	4.3	0	0	0	0
86	4.3	0	0	0	0
87	4.3	0	0	0	0
88	4.3	0	0	0	0
89	4.3	0	0	0	0
90	4.3	0	0	0	0
91	4.3	0	0	0	0
92	4.3	0	0	0	0
93	4.3	0	0	0	0
94	4.3	0	0	0	0
95	4.3	0	0	0	0
96	4.3	0	0	0	0
97	4.3	0	0	0	0
98	4.3	0	0	0	0
99	4.3	0	0	0	0
100	4.3	0	0	0	0



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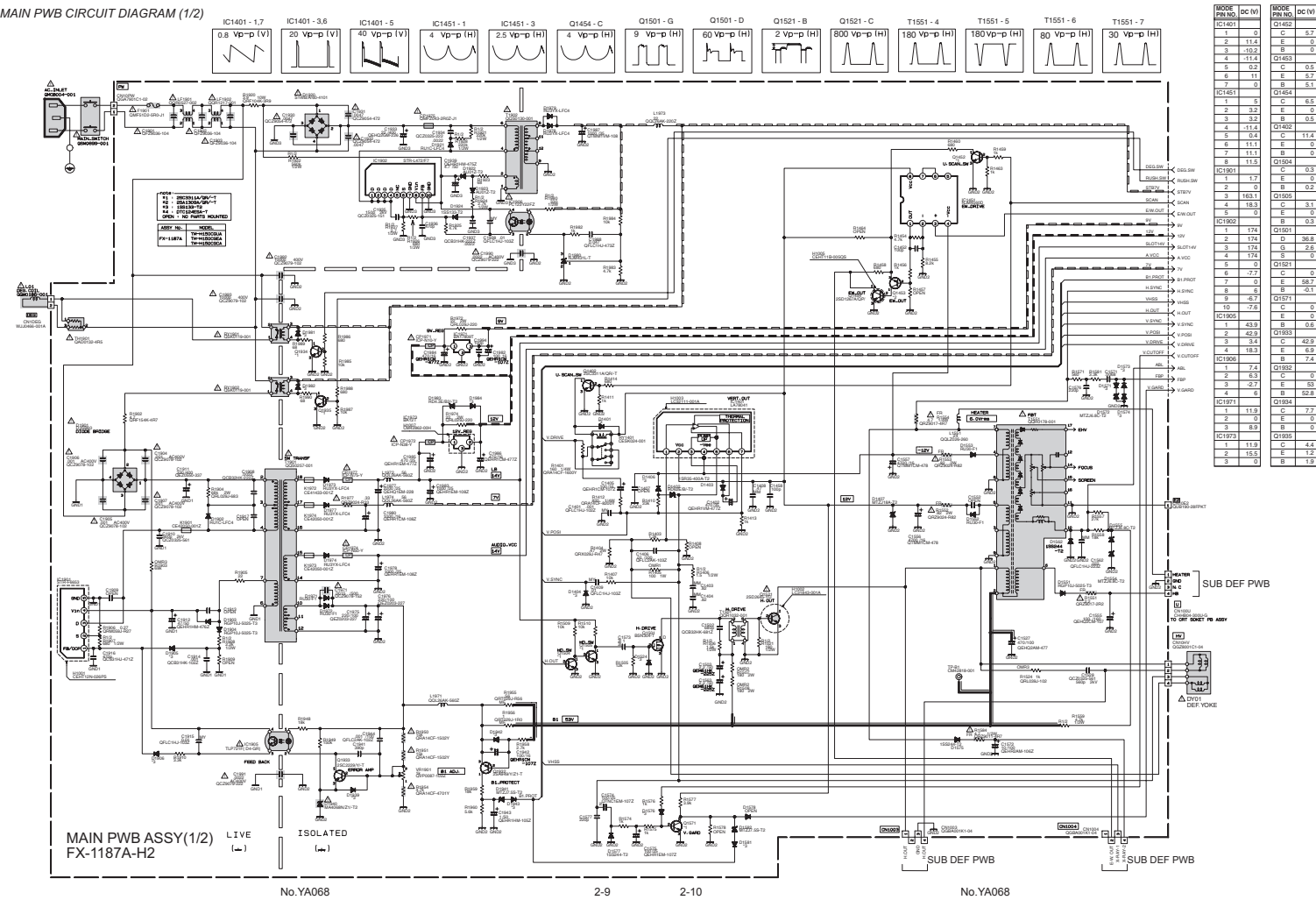
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No.YA068

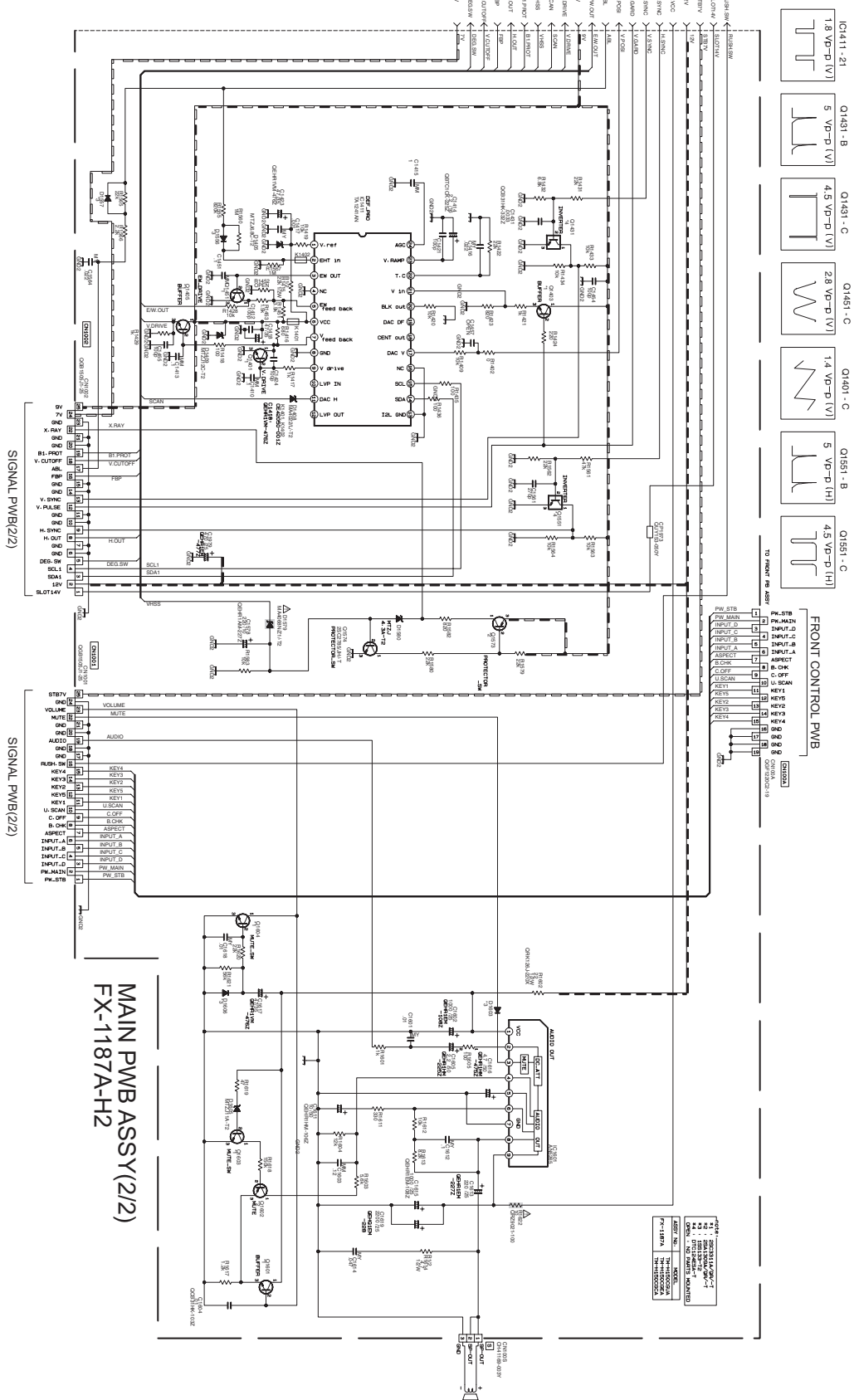




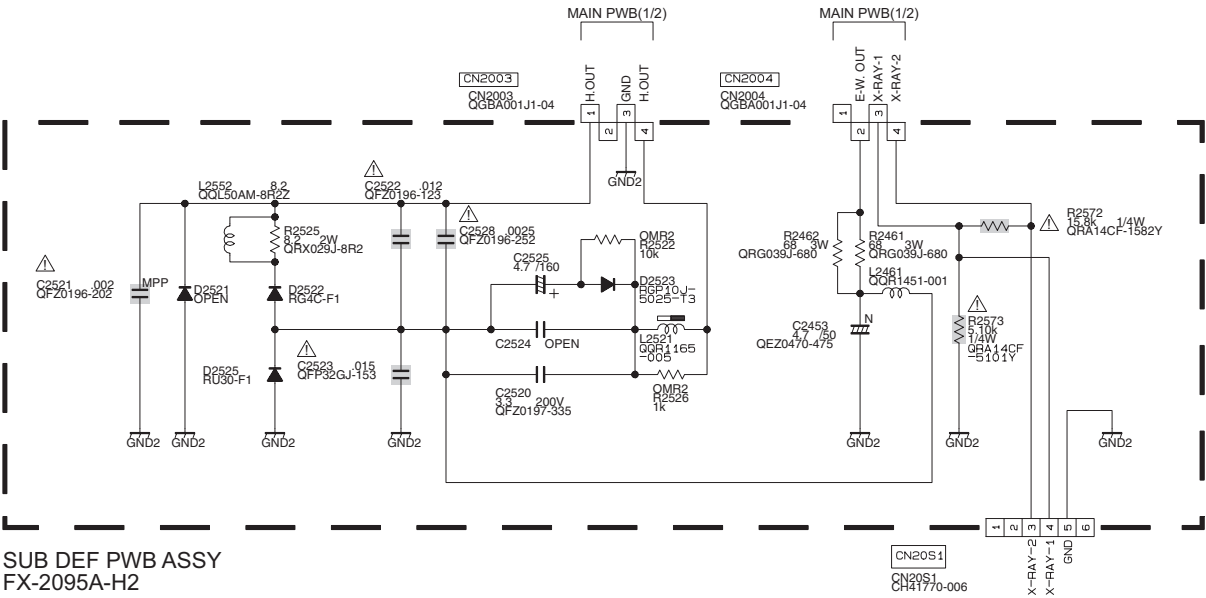
MAIN PWB CIRCUIT DIAGRAM (1/2)



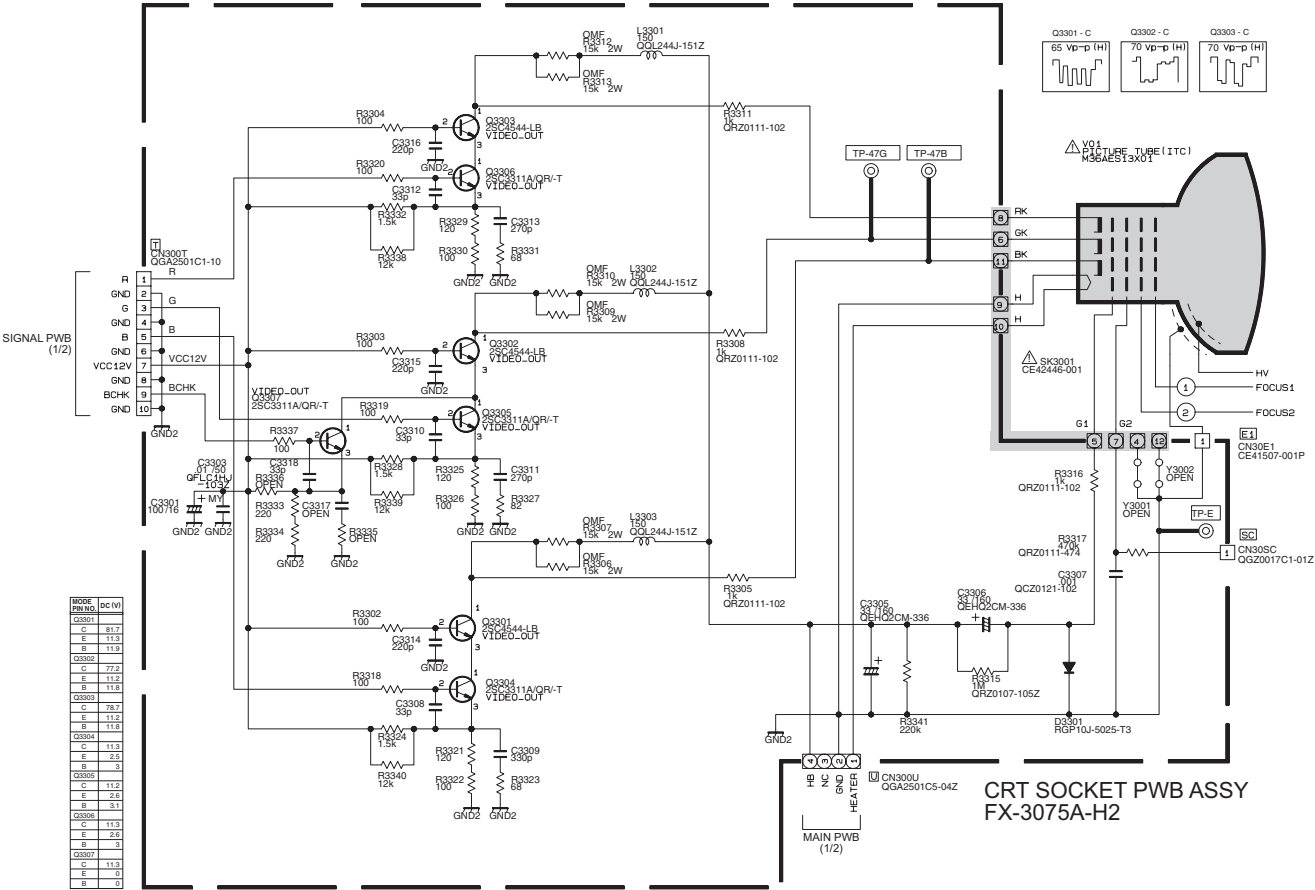
IC1401	DC (V)	IC1451	DC (V)
1	0	1	0
2	11.4	2	11.4
3	10.2	3	10.2
4	11.4	4	11.4
5	0.2	5	0.2
6	11	6	11
7	0	7	0
IC1451	0	IC1454	0
1	0	1	0
2	3.2	2	3.2
3	3.2	3	3.2
4	11.4	4	11.4
5	0.4	5	0.4
6	11.1	6	11.1
7	11.1	7	11.1
8	11.8	8	11.8
IC1501	1.7	IC1504	0.3
1	0	1	0
2	0	2	0
3	163.1	3	163.1
4	18.3	4	18.3
5	0	5	0
6	0.3	6	0.3
7	0	7	0
8	1.74	8	1.74
9	1.74	9	1.74
10	1.74	10	1.74
11	1.74	11	1.74
12	1.74	12	1.74
13	1.74	13	1.74
14	1.74	14	1.74
15	1.74	15	1.74
16	1.74	16	1.74
17	1.74	17	1.74
18	1.74	18	1.74
19	1.74	19	1.74
20	1.74	20	1.74
21	1.74	21	1.74
22	1.74	22	1.74
23	1.74	23	1.74
24	1.74	24	1.74
25	1.74	25	1.74
26	1.74	26	1.74
27	1.74	27	1.74
28	1.74	28	1.74
29	1.74	29	1.74
30	1.74	30	1.74
31	1.74	31	1.74
32	1.74	32	1.74
33	1.74	33	1.74
34	1.74	34	1.74
35	1.74	35	1.74
36	1.74	36	1.74
37	1.74	37	1.74
38	1.74	38	1.74
39	1.74	39	1.74
40	1.74	40	1.74
41	1.74	41	1.74
42	1.74	42	1.74
43	1.74	43	1.74
44	1.74	44	1.74
45	1.74	45	1.74
46	1.74	46	1.74
47	1.74	47	1.74
48	1.74	48	1.74
49	1.74	49	1.74
50	1.74	50	1.74
51	1.74	51	1.74
52	1.74	52	1.74
53	1.74	53	1.74
54	1.74	54	1.74
55	1.74	55	1.74
56	1.74	56	1.74
57	1.74	57	1.74
58	1.74	58	1.74
59	1.74	59	1.74
60	1.74	60	1.74
61	1.74	61	1.74
62	1.74	62	1.74
63	1.74	63	1.74
64	1.74	64	1.74
65	1.74	65	1.74
66	1.74	66	1.74
67	1.74	67	1.74
68	1.74	68	1.74
69	1.74	69	1.74
70	1.74	70	1.74
71	1.74	71	1.74
72	1.74	72	1.74
73	1.74	73	1.74
74	1.74	74	1.74
75	1.74	75	1.74
76	1.74	76	1.74
77	1.74	77	1.74
78	1.74	78	1.74
79	1.74	79	1.74
80	1.74	80	1.74
81	1.74	81	1.74
82	1.74	82	1.74
83	1.74	83	1.74
84	1.74	84	1.74
85	1.74	85	1.74
86	1.74	86	1.74
87	1.74	87	1.74
88	1.74	88	1.74
89	1.74	89	1.74
90	1.74	90	1.74
91	1.74	91	1.74
92	1.74	92	1.74
93	1.74	93	1.74
94	1.74	94	1.74
95	1.74	95	1.74
96	1.74	96	1.74
97	1.74	97	1.74
98	1.74	98	1.74
99	1.74	99	1.74
100	1.74	100	1.74

[illegible]

SUB DEF PWB CIRCUIT DIAGRAM



CRT SOCKET PWB CIRCUIT DIAGRAM

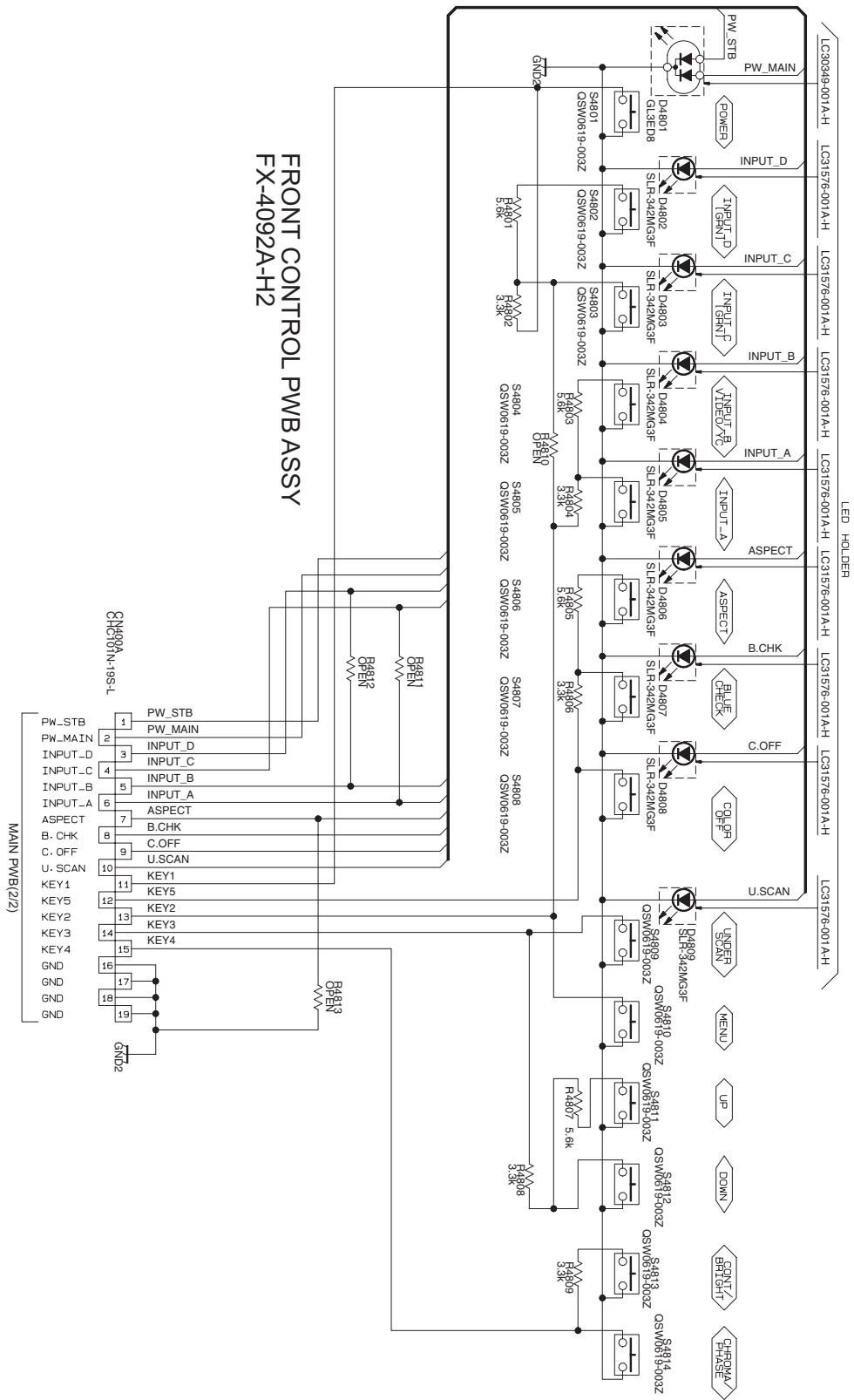


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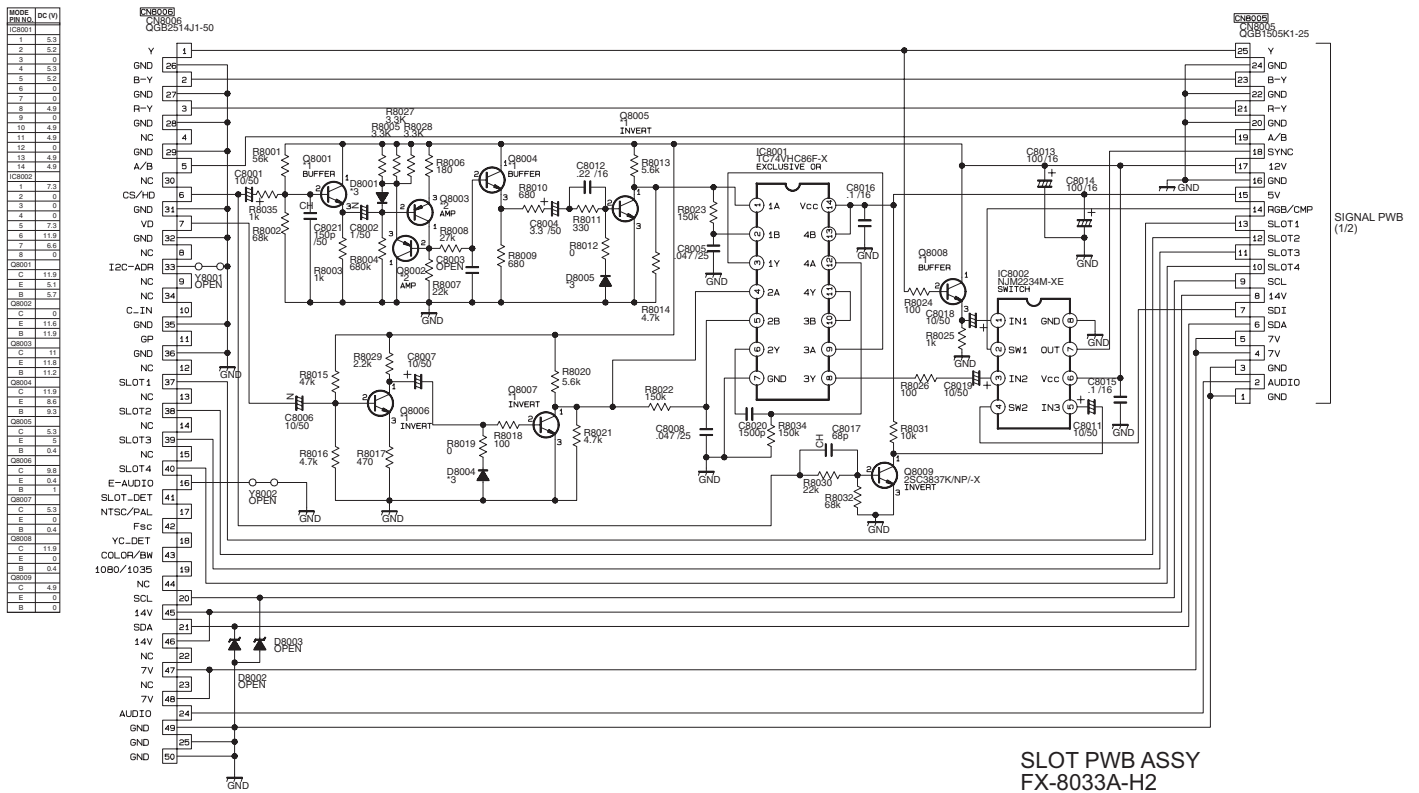
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No.YA068



FRONT CONTROL PWB ASSY  
FX-4092A-H2

# SLOT PWB CIRCUIT DIAGRAM



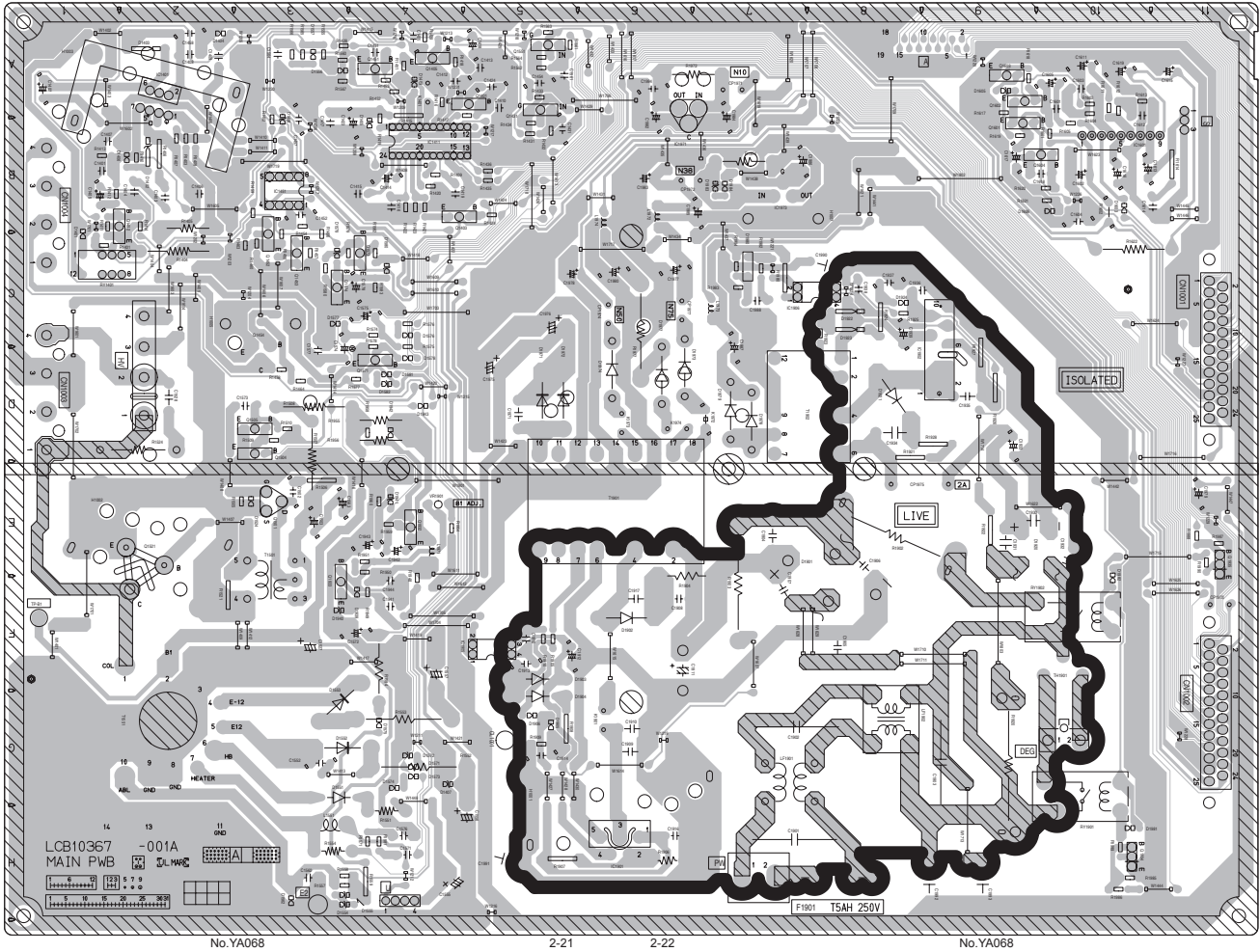
No.YA068

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No.YA068

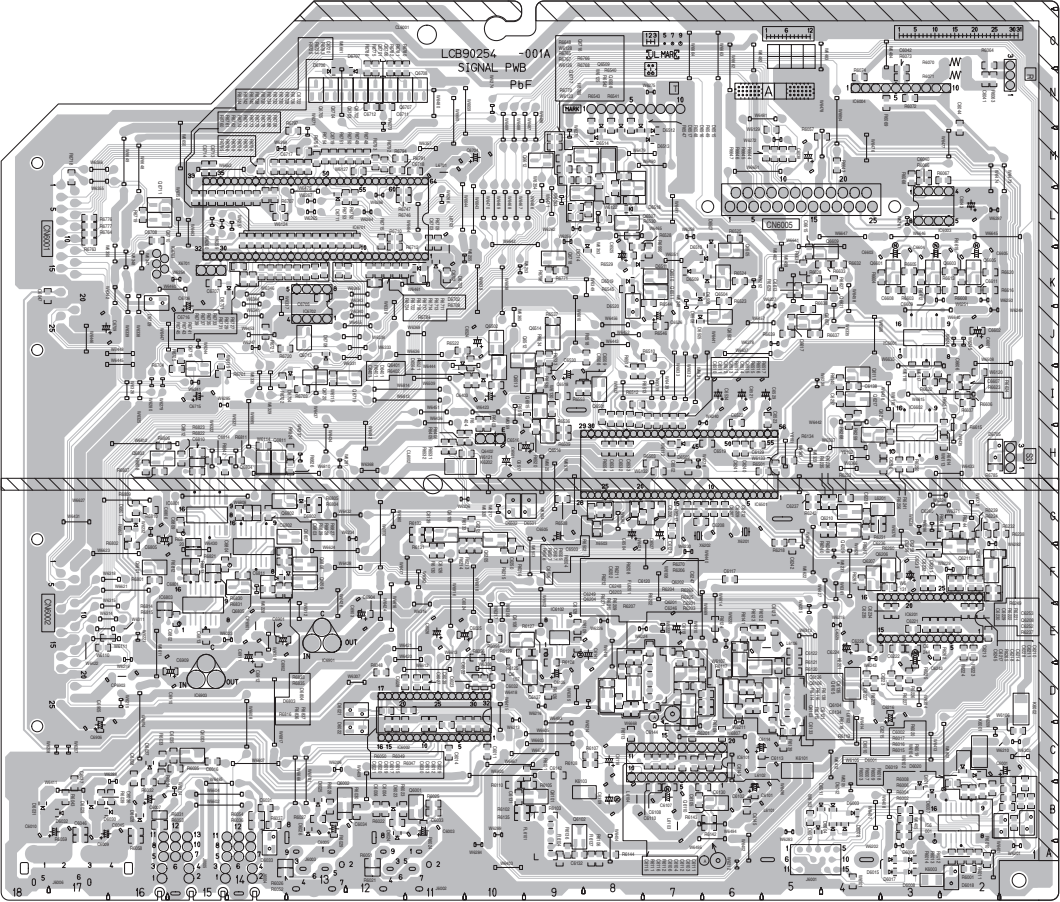
**PATTERN DIAGRAMS**  
MAIN PWB PATTERN



FRONT  
↑



SIGNAL PWB PATTERN



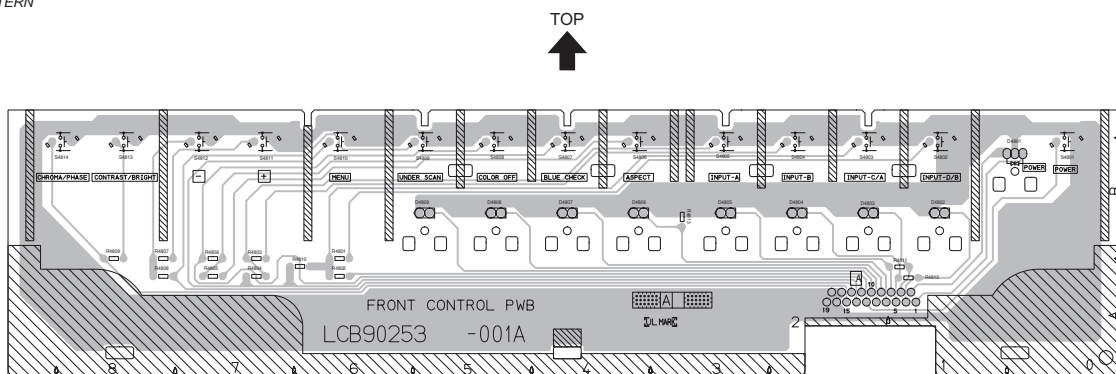
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2-23

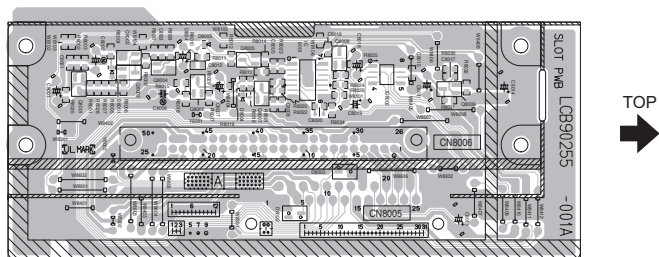
2-24

No.YA068

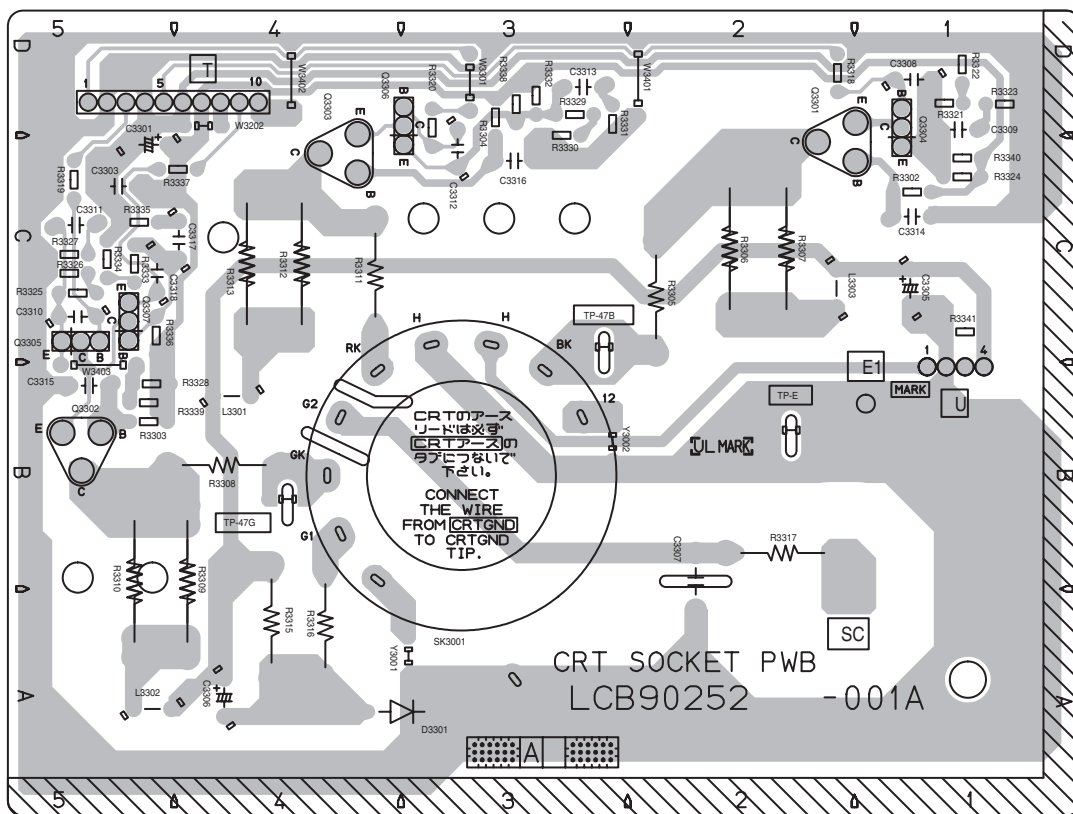
FRONT CONTROL PWB PATTERN

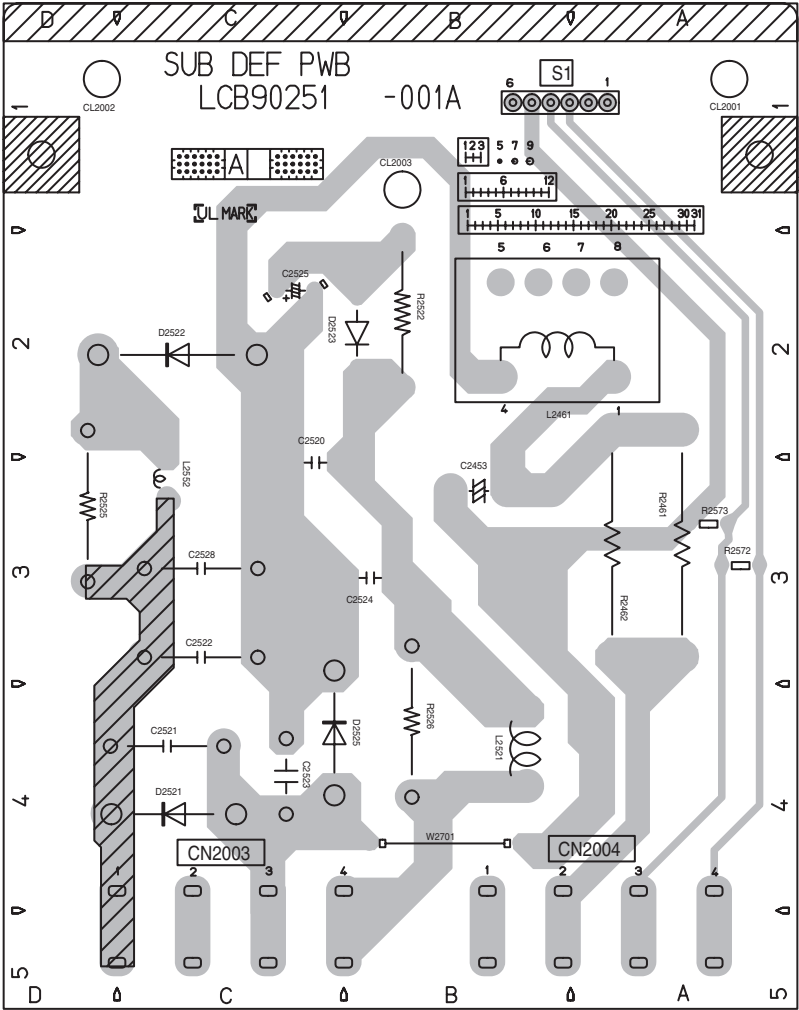


### SLOT PWB PATTERN



## CRT SOCKET PWB PATTERN





# PARTS LIST

## CAUTION

- The parts identified by the  $\Delta$  symbol are important for the safety . Whenever replacing these parts, be sure to use specified ones to secure the safety.
- The parts not indicated in this Parts List and those which are filled with lines --- in the Parts No. columns will not be supplied.
- P.W. BOARD Ass'y will not be supplied, but those which are filled with the Parts No. in the Parts No. columns will be supplied.

### ABBREVIATIONS OF RESISTORS, CAPACITORS AND TOLERANCES

RESISTORS		CAPACITORS	
CR	Carbon Resistor	C CAP.	Ceramic Capacitor
FR	Fusible Resistor	E CAP.	Electrolytic Capacitor
PR	Plate Resistor	M CAP.	Mylar Capacitor
VR	Variable Resistor	CH CAP.	Chip Capacitor
HV R	High Voltage Resistor	HV CAP.	High Voltage Capacitor
MF R	Metal Film Resistor	MF CAP.	Metalized Film Capacitor
MG R	Metal Glazed Resistor	MM CAP.	Metalized Mylar Capacitor
MP R	Metal Plate Resistor	MP CAP.	Metalized Polystyrol Capacitor
OM R	Metal Oxide Film Resistor	PP CAP.	Polypropylene Capacitor
CMF R	Coating Metal Film Resistor	PS CAP.	Polystyrol Capacitor
UNF R	Non-Flammable Resistor	TF CAP.	Thin Film Capacitor
CH V R	Chip Variable Resistor	MPP CAP.	Metalized Polypropylene Capacitor
CH MG R	Chip Metal Glazed Resistor	TAN. CAP.	Tantalum Capacitor
COMP. R	Composition Resistor	CH C CAP.	Chip Ceramic Capacitor
LPTC R	Linear Positive Temperature Coefficient Resistor	BP E CAP.	Bi-Polar Electrolytic Capacitor
		CH AL E CAP.	Chip Aluminum Electrolytic Capacitor
		CH AL BP CAP.	Chip Aluminum Bi-Polar Capacitor
		CH TAN. E CAP.	Chip Tantalum Electrolytic Capacitor
		CH AL BP E CAP.	Chip Tantalum Bi-Polar Electrolytic Capacitor

RESISTORS									
F	G	J	K	M	N	R	H	Z	P
±1%	±2%	±5%	±10%	±20%	±30%	+30% -10%	+50% -10%	+80% -20%	+100% -0%

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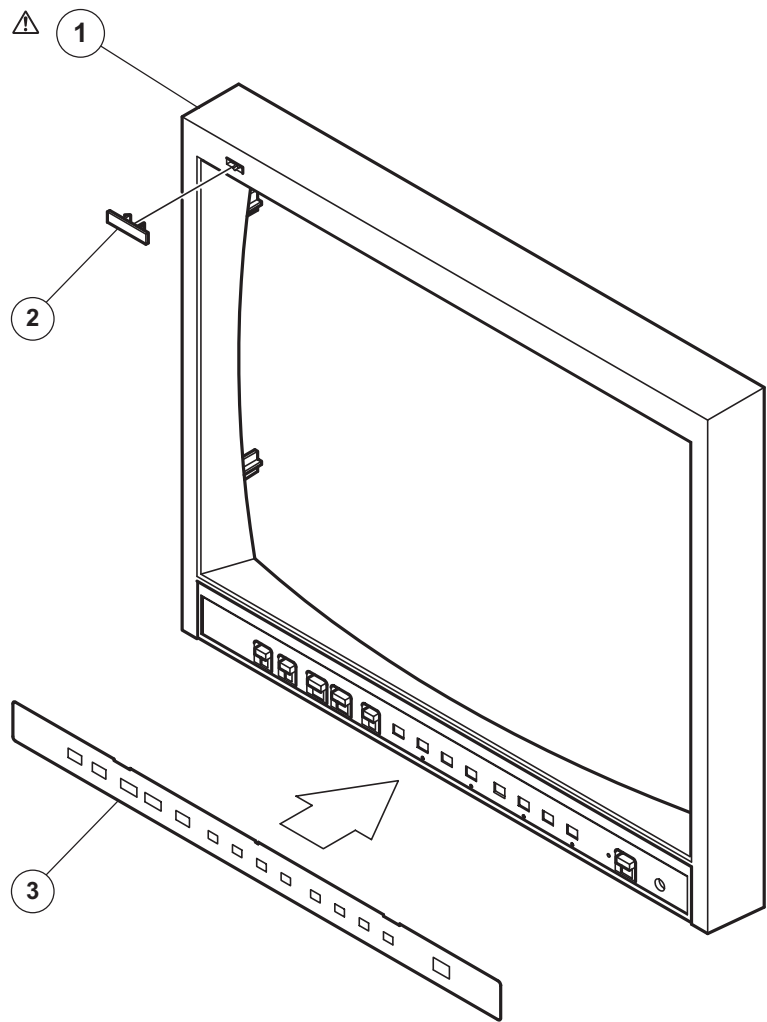
## USING P.W. BOARD & REMOTE CONTROL UNIT

P.W.B ASS'Y	TM-H150CG/E	TM-H150CG/U
MAIN P.W.B	FX-1187A-H2	←
SUB DEF P.W.B	FX-2095A-H2	←
CRT SOCKET P.W.B	FX-3075A-H2	←
FRONT CONTROL P.W.B	FX-4092A-H2	←
SIGNAL P.W.B	FX-6143A-H2	←
SLOT P.W.B	FX-8033A-H2	←

# EXPLODED VIEW PARTS LIST -1

△	Ref.No.	Part No.	Part Name	Description	Local
△	1	LC11757-001A-H	FRONT PANEL		
	2	CM48149-A01	JVC MARK		
	3	LC21470-001A-H	CONTROL SHEET		

## EXPLODED VIEW -1

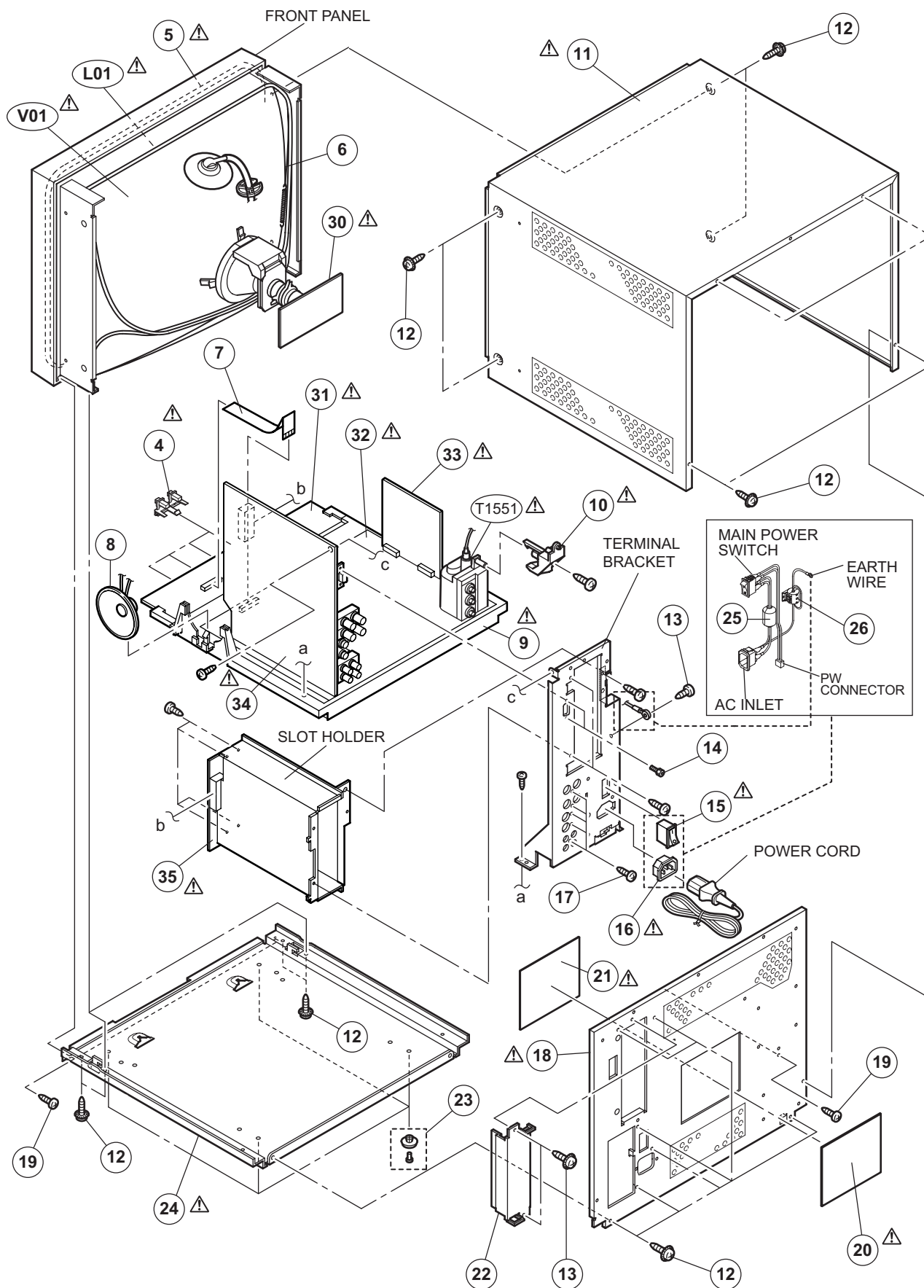


# EXPLODED VIEW PARTS LIST -2

△	Ref.No.	Part No.	Part Name	Description	Local
△	V01	M36AES13X01/L/	ITC	Inc.DEF YOKE/PC MAGNET/WEDGE	
△	L01	QQW0186-001	DEG COIL		
△	T1551	QQH0178-001	FB TRANSF		
△	4	LC31575-001B-H	PUSH KNOB	(x4)	
△	5	QQW0185-001	CANCELLER COIL		
	6	WJY0027-001A	BRAIDED ASSY		
	7	CHFD119-14BD	FFC WIRE		
	8	CEBSS08P-01KJ2	SPEAKER		
△	9	LC11756-001A-H	CHASSIS BASE		
△	10	LC31577-001A-H	FBT HOLDER		
△	11	LC11764-002A-H	TOP COVER		
	12	LC41453-001A	ASSY SCREW	(x13)	
	13	CM44287-00E	ASSY SCREW	(x3)	
	14	QNB0036-001	HEX SCREW	(x2)	
△	15	QSW0699-001	SEESAW SWITCH	MAIN POWER	
△	16	QMCB004-001	AC INLET		
	17	QYSBSF3010M	TAP SCREW	3mm x 10mm(x5)	
△	18	LC11763-001B-H	REAR PANEL		
	19	QYSBSF4012Z	TAP SCREW	4mm x 12mm(x3)	
△	20	LC21283-001A-0L	ROLL R LABEL		
△	21	LC30475-003A-H	WARNING LABEL		
	22	LC31464-003A-C	SLOT PANEL		
	23	CM47686-00A	FOOT	(x4)	
△	24	LC11762-001A-H	BOTTOM COVER		
	25	QQR0491-001	CORE FILTER	(GRAY)	
	26	QQR0803-001	CORE FILTER		
△	30	FX-3075A-H2	CRT SOCKET PWB		
△	31	FX-4092A-H2	FRONT CONTROL PWB		
△	32	FX-1187A-H2	MAIN PWB		
△	33	FX-2095A-H2	SUB DEF PWB		
△	34	FX-6143A-H2	SIGNAL PWB		
△	35	FX-8033A-H2	SLOT PWB		



## EXPLODED VIEW -2



(No.YA068)3-5

# PRINTED WIRING BOARD PARTS LIST

## MAIN P.W. BOARD ASS'Y (FX-1187A-H2)

△Ref No.	Part No.	Part Name	Description Local
IC1401	LA78041	IC	
IC1411	TA1241AN	IC	
IC1451	NJM4560D	IC	
IC1601	AN5265	IC	
IC1901	STR-F6653	IC	
IC1902	STR-L472/F7	IC	
△IC1905	TLP721F(D4-GR)	PHOTO COUPLER	
△IC1906	PC123Y22FZ	PHOTO COUPLER	
IC1971	BA17809T	IC	
IC1973	BA12T	IC	
Q1401	2SC3311A/QR/-T	TRANSISTOR	
Q1402	2SC3311A/QR/-T	TRANSISTOR	
Q1403	2SC3311A/QR/-T	TRANSISTOR	
Q1405	2SC3311A/QR/-T	TRANSISTOR	
Q1431	DTC124ESA-T	DIGI TRANSISTOR	
Q1451	2SC3311A/QR/-T	TRANSISTOR	
Q1452	2SC3311A/QR/-T	TRANSISTOR	
Q1453	2SA1309A/QR/-T	SI TRANSISTOR	
Q1454	2SD1267A/QP/-	POW TRANSISTOR	
Q1501	BSN304-T	TRANSISTOR	
Q1504	2SC3311A/QR/-T	TRANSISTOR	
Q1505	2SC3311A/QR/-T	TRANSISTOR	
△Q1521	2SD2645-YD	TRANSISTOR	H OUT
Q1551	DTC124ESA-T	DIGI TRANSISTOR	
Q1571	2SC3311A/QR/-T	TRANSISTOR	
Q1573	2SA1309A/QR/-T	SI TRANSISTOR	
Q1574	2SC2785/JH/-T	SI TRANSISTOR	
Q1601	2SC3311A/QR/-T	TRANSISTOR	
Q1602	2SA1309A/QR/-T	SI TRANSISTOR	
Q1603	2SC3311A/QR/-T	TRANSISTOR	
Q1604	2SC3311A/QR/-T	TRANSISTOR	
Q1932	2SA949/Y/Z1-T	SI TRANSISTOR	
Q1933	2SC2229/Y/-T	TRANSISTOR	
Q1934	2SC3311A/QR/-T	TRANSISTOR	
Q1935	2SC3311A/QR/-T	TRANSISTOR	
D1401	1SS133-T2	DIODE	
D1402	RD62E/B/-T2	Z DIODE	
D1403	1SR35-400A-T2	SI DIODE	
D1404	1SS133-T2	DIODE	
D1405	MTZJ6.8C-T2	Z DIODE	
D1406	1SS133-T2	DIODE	
D1407	MTZJ18A-T2	Z DIODE	
D1408	MA4022/L/-T2	Z DIODE	
D1409	MTZJ12C-T2	Z DIODE	
D1524	1SS133-T2	DIODE	
D1551	RGP10J-5025-T3	SI DIODE	
D1552	RU30-F1	SI DIODE	
D1553	RU30-F1	SI DIODE	
D1554	MTZJ6.8C-T2	Z DIODE	
D1555	MTZJ6.8C-T2	Z DIODE	
D1556	1SS133-T2	DIODE	
D1557	1SS133-T2	DIODE	
D1562	1SS244-T2	SI DIODE	
D1571	1SS133-T2	DIODE	
D1572	MTZJ6.8C-T2	Z DIODE	
D1573	1SS133-T2	DIODE	
D1574	1SS133-T2	DIODE	
D1575	1SS244-T2	SI DIODE	
D1576	1SS133-T2	DIODE	
D1577	1SS244-T2	SI DIODE	
△D1579	MA4068N/Z1/-T2	Z DIODE	
D1580	MTZJ4.3A-T2	Z DIODE	
D1581	1SS133-T2	DIODE	
D1582	MTZJ7.5S-T2	Z DIODE	
D1603	1SS133-T2	DIODE	
D1605	MTZJ11A-T2	Z DIODE	
D1606	1SS133-T2	DIODE	
△D1901	D3SB60	BRIDGE DIODE	
D1902	RU1C-LFC4	SI DIODE	
D1903	RGP10J-5025-T3	SI DIODE	
D1904	RGP10J-5025-T3	SI DIODE	
D1905	1SS133-T2	DIODE	
D1906	1SS133-T2	DIODE	
△D1920	S1WB/A/60-4101	BRIDGE DIODE	
D1921	RU1C-LFC4	SI DIODE	
D1922	AU01Z-T2	FR DIODE	
D1923	AU01Z-T2	FR DIODE	
D1924	1SS133-T2	DIODE	
D1939	1SS133-T2	DIODE	
△D1940	MA4068N/Z1/-T2	Z DIODE	

△Ref No.	Part No.	Part Name	Description Local
D1941	MTZJ7.5S-T2	Z DIODE	
D1942	1SS133-T2	DIODE	
D1943	1SS133-T2	DIODE	
D1971	RU30-F1	SI DIODE	
D1972	RU30-F1	SI DIODE	
D1973	RU3YX-LFC4	SI DIODE	
D1974	RU3YX-LFC4	SI DIODE	
D1977	RU3YX-LFC4	SI DIODE	
D1978	RU3YX-LFC4	SI DIODE	
D1979	RU3YX-LFC4	SI DIODE	
D1980	NJM431L-T	IC	
D1981	1SS133-T2	DIODE	
D1982	1SS133-T2	DIODE	
D1983	RD4.3E/B2/-T2	Z DIODE	
D1984	1SS133-T2	DIODE	
C1401	QFLC1HJ-102Z	M CAPACITOR	1000pF 50V J
C1402	QEHR1VM-477Z	E CAPACITOR	470uF 35V M
C1403	QFVF1HJ-824Z	MF CAPACITOR	0.82uF 50V J
C1404	QFVF1HJ-824Z	MF CAPACITOR	0.82uF 50V J
C1405	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C1406	QFLC2AK-103Z	M CAPACITOR	0.01uF 100V K
C1408	QFVF1HJ-474Z	MF CAPACITOR	0.47uF 50V J
C1409	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J
C1410	QFVF1HJ-104Z	MF CAPACITOR	0.1uF 50V J
C1412	QCS31HJ-101Z	C CAPACITOR	100pF 50V J
C1413	QFVF1HJ-104Z	MF CAPACITOR	0.1uF 50V J
C1414	QBTC1CK-225Z	TA E CAPACITOR	2.2uF 16V K
C1415	QFVF1HJ-105Z	MF CAPACITOR	1uF 50V J
C1416	QFLC1HJ-223Z	M CAPACITOR	0.022uF 50V J
C1417	QFLC1HJ-102Z	M CAPACITOR	1000pF 50V J
C1418	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C1421	QCS31HJ-101Z	C CAPACITOR	100pF 50V J
C1423	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C1424	QCS31HJ-101Z	C CAPACITOR	100pF 50V J
C1431	QCB31HK-332Z	C CAPACITOR	3300pF 50V K
C1451	QFVF1HJ-104Z	MF CAPACITOR	0.1uF 50V J
C1452	QCS31HJ-101Z	C CAPACITOR	100pF 50V J
C1454	QCS31HJ-101Z	C CAPACITOR	100pF 50V J
C1455	QCS31HJ-101Z	C CAPACITOR	100pF 50V J
C1458	QCS31HJ-101Z	C CAPACITOR	100pF 50V J
C1502	QCB32HK-681Z	C CAPACITOR	680pF 500V K
C1503	QEM61HK-225Z	E CAPACITOR	2.2uF 50V K
C1527	QEHQ2AM-477	E CAPACITOR	470uF 100V M
C1528	QCZ0325-561	C CAPACITOR	560pF 2kV K
C1555	QEHQ2CM-107	E CAPACITOR	100uF 160V M
C1556	QTMM1CM-478	E CAPACITOR	4700uF 16V M
C1557	QTMM1CM-478	E CAPACITOR	4700uF 16V M
C1561	QCS31HJ-271Z	C CAPACITOR	270pF 50V J
C1562	QFLC1HJ-223Z	M CAPACITOR	0.022uF 50V J
C1563	QEM61HK-225Z	E CAPACITOR	2.2uF 50V K
C1564	QFLC1HJ-223Z	M CAPACITOR	0.022uF 50V J
C1571	QCB31HK-682Z	C CAPACITOR	6800pF 50V K
C1572	QEHR2AM-106Z	E CAPACITOR	10uF 100V M
C1573	QFVF1HJ-105Z	MF CAPACITOR	1uF 50V J
C1574	QTNC1EM-107Z	E CAPACITOR	100uF 25V M
C1575	QEHR1EM-107Z	E CAPACITOR	100uF 25V M
C1576	QCS31HJ-221Z	C CAPACITOR	220pF 50V J
C1577	QCS31HJ-221Z	C CAPACITOR	220pF 50V J
C1578	QEHR1AM-227Z	E CAPACITOR	220uF 10V M
C1601	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J
C1602	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M
C1603	QFVF1HJ-124Z	MF CAPACITOR	0.12uF 50V J
C1604	QCB31HK-103Z	C CAPACITOR	0.01uF 50V K
C1605	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M
C1611	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C1612	QFLC1HJ-104Z	M CAPACITOR	0.1uF 50V J
C1613	QEHR1EM-227Z	E CAPACITOR	220uF 25V M
C1614	QFLC1HJ-473Z	M CAPACITOR	0.047uF 50V J
C1615	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M
C1616	QEHR1HM-475Z	E CAPACITOR	4.7uF 50V M
C1617	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C1618	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J
C1619	QEHQ1EM-228	E CAPACITOR	2200uF 25V M
△C1901	QFZ9036-104	MF CAPACITOR	0.1uF AC250V M
△C1902	QFZ9036-104	MF CAPACITOR	0.1uF AC250V M
△C1903	QFZ9036-104	MF CAPACITOR	0.1uF AC250V M
△C1904	QCZ9078-102	C CAPACITOR	1000pF AC250V M
△C1905	QCZ9078-102	C CAPACITOR	1000pF AC250V M
△C1906	QCZ9078-102	C CAPACITOR	1000pF AC250V M
△C1907	QCZ9078-102	C CAPACITOR	1000pF AC250V M
C1908	QCB32HK-222Z	C CAPACITOR	2200pF 500V K
C1910	QCZ0325-561	C CAPACITOR	560pF 2kV K
C1911	QEZ0550-337	E CAPACITOR	330uF 400V

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
C1912	QEHR1HM-476Z	E CAPACITOR	47uF 50V M	△R1552	QRZ9024-R82	FUSIBLE RESISTO	0.82Ω 2W K
C1914	QCB31HK-102Z	C CAPACITOR	1000pF 50V K	△R1553	QRZ9024-R82	FUSIBLE RESISTO	0.82Ω 2W K
C1915	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J	△R1554	QRZ9017-4R7	FUSI RESISTOR	4.7Ω 1/4W J
C1916	QCS31HJ-471Z	C CAPACITOR	470pF 50V J	R1555	QRE141J-824Y	C RESISTOR	820kΩ 1/4W J
△C1930	QCZ9054-472	C CAPACITOR	4700pF AC250V Z	R1557	QRE141J-273Y	C RESISTOR	27kΩ 1/4W J
△C1931	QCZ9054-472	C CAPACITOR	4700pF AC250V Z	R1558	QRE141J-183Y	C RESISTOR	18kΩ 1/4W J
△C1932	QCZ9054-472	C CAPACITOR	4700pF AC250V Z	R1559	QRE121J-472Y	C RESISTOR	4.7kΩ 1/2W J
C1933	QEHQ2GM-226	E CAPACITOR	22uF 400V M	R1560	QRE141J-105Y	C RESISTOR	1MΩ 1/4W J
C1934	QCZ0325-222	C CAPACITOR	2200pF 2kV K	R1561	QRE141J-473Y	C RESISTOR	47kΩ 1/4W J
C1935	QCZ0325-151	C CAPACITOR	150pF 2kV K	R1562	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
C1936	QCS31HJ-471Z	C CAPACITOR	470pF 50V J	R1563	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
C1937	QCB31HK-222Z	C CAPACITOR	2200pF 50V K	R1564	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
C1938	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J	R1565	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
C1939	QEHR1HM-475Z	E CAPACITOR	4.7uF 50V M	R1566	QRE141J-222Y	C RESISTOR	2.2kΩ 1/4W J
C1941	QCS31HJ-391Z	C CAPACITOR	390pF 50V J	R1567	QRE141J-105Y	C RESISTOR	1MΩ 1/4W J
C1942	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	R1571	QRE141J-561Y	C RESISTOR	560Ω 1/4W J
C1943	QEHR1HM-105Z	E CAPACITOR	1uF 50V M	R1574	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
C1944	QFN32AK-102Z	M CAPACITOR	1000pF 50V K	R1575	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
△C1971	QCZ9078-152	C CAPACITOR	1500pF AC250V M	R1576	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
C1975	QEZ0203-227	E CAPACITOR	220uF 160V M	R1577	QRE141J-392Y	C RESISTOR	3.9kΩ 1/4W J
C1976	QEZ0203-227	E CAPACITOR	220uF 160V M	R1579	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
C1977	QEHQ1EM-228	E CAPACITOR	2200uF 25V M	R1580	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
C1978	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M	R1581	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
C1979	QEHR1EM-477Z	E CAPACITOR	470uF 25V M	R1582	QRE141J-821Y	C RESISTOR	820Ω 1/4W J
C1980	QEHR1CM-108Z	E CAPACITOR	1000uF 16V M	R1583	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
C1982	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	△R1584	QRZ9011-4R7	FUSI RESISTOR	4.7Ω 1/2W J
C1983	QEHR1EM-108Z	E CAPACITOR	1000uF 25V M	R1601	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
C1984	QEHR1CM-477Z	E CAPACITOR	470uF 16V M	R1602	QRK126J-220X	UNF C RESISTOR	22Ω 1/2W J
C1985	QEHR1EM-477Z	E CAPACITOR	470uF 25V M	R1603	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J
C1986	QEHR1CM-477Z	E CAPACITOR	470uF 16V M	R1604	QRE141J-123Y	C RESISTOR	12kΩ 1/4W J
C1987	QTM11VM-108	E CAPACITOR	1000uF 35V M	R1605	QRE141J-101Y	C RESISTOR	100Ω 1/4W J
C1988	QFLC1HJ-473Z	M CAPACITOR	0.047uF 50V J	R1611	QRE141J-331Y	C RESISTOR	330Ω 1/4W J
△C1990	QCZ9079-222	C CAPACITOR	2200pF AC250V M	R1612	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
△C1991	QCZ9079-222	C CAPACITOR	2200pF AC250V M	R1613	QRE141J-822Y	C RESISTOR	8.2kΩ 1/4W J
△C1992	QCZ9079-102	C CAPACITOR	1000pF AC250V M	R1614	QRE121J-4R7Y	C RESISTOR	4.7Ω 1/2W J
△C1993	QCZ9079-102	C CAPACITOR	1000pF AC250V M	R1617	QRE141J-122Y	C RESISTOR	1.2kΩ 1/4W J
C1994	QCS31HJ-101Z	C CAPACITOR	100pF 50V J	R1618	QRE141J-154Y	C RESISTOR	150kΩ 1/4W J
R1401	QRA14CF-1600Y	CMF RESISTOR	160Ω 1/4W F	R1619	QRE141J-470Y	C RESISTOR	47Ω 1/4W J
R1402	QRE141J-0R0Y	C RESISTOR	0Ω 1/4W F	R1620	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J
R1403	QRE141J-122Y	C RESISTOR	1.2kΩ 1/4W J	R1621	QRE141J-563Y	C RESISTOR	56kΩ 1/4W J
R1404	QRX029J-R47	MF RESISTOR	0.47Ω 2W J	△R1622	QRZ9021-100	FUSI RESISTOR	10Ω 1W J
R1405	QRG01GJ-101	OMF RESISTOR	100Ω 1W J	R1902	QRF154K-4R7	UNF WW RESISTOR	4.7Ω 15W K
R1406	QRE121J-1R5Y	C RESISTOR	1.5Ω 1/2W J	R1903	QRG039J-683	OMF RESISTOR	68kΩ 3W J
R1407	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	R1904	QRL029J-683	OMF RESISTOR	68kΩ 2W J
R1409	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	R1905	QRE141J-220Y	C RESISTOR	22Ω 1/4W J
R1410	QRE141J-333Y	C RESISTOR	33kΩ 1/4W J	R1906	QRM059J-R27	MP RESISTOR	0.27Ω 5W J
R1411	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R1907	QRE121J-681Y	C RESISTOR	680Ω 1/2W J
R1412	QRA14CF-8200Y	CMF RESISTOR	820Ω 1/4W F	R1908	QRE121J-222Y	C RESISTOR	2.2kΩ 1/2W J
R1413	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R1910	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J
R1414	QRE141J-681Y	C RESISTOR	680Ω 1/4W J	R1920	QRF104K-3R9	UNF WW RESISTOR	3.9Ω 10W K
R1415	QRE121J-223Y	C RESISTOR	22kΩ 1/2W J	R1921	QRE121J-224Y	C RESISTOR	220kΩ 1/2W J
R1416	QRE141J-681Y	C RESISTOR	680Ω 1/4W J	R1922	QRE121J-564Y	C RESISTOR	560kΩ 1/2W J
R1417	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R1923	QRE141J-680Y	C RESISTOR	68Ω 1/4W J
R1418	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	R1924	QRE121J-272Y	C RESISTOR	2.7kΩ 1/2W J
R1419	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	R1925	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R1420	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	R1926	QRE121J-681Y	C RESISTOR	680Ω 1/2W J
R1421	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R1927	QRE121J-2R7Y	C RESISTOR	2.7Ω 1/2W J
R1422	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J	R1928	QRE121J-224Y	C RESISTOR	220kΩ 1/2W J
R1423	QRE141J-821Y	C RESISTOR	820Ω 1/4W J	R1948	QRE141J-183Y	C RESISTOR	18kΩ 1/4W J
R1424	QRE141J-221Y	C RESISTOR	220Ω 1/4W J	R1949	QRE141J-154Y	C RESISTOR	150kΩ 1/4W J
R1428	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	△R1950	QRA14CF-1502Y	CMF RESISTOR	15kΩ 1/4W F
R1429	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	△R1951	QRA14CF-1502Y	CMF RESISTOR	15kΩ 1/4W F
R1431	QRE141J-223Y	C RESISTOR	22kΩ 1/4W J	△R1954	QRA14CF-4701Y	CMF RESISTOR	4.7kΩ 1/4W F
R1432	QRE141J-682Y	C RESISTOR	6.8kΩ 1/4W J	R1955	QRT029J-R56	MF RESISTOR	0.56Ω 2W J
R1433	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	R1956	QRT029J-1R0	MF RESISTOR	1Ω 2W J
R1434	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	R1958	QRE141J-272Y	C RESISTOR	2.7kΩ 1/4W J
R1435	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	R1959	QRE141J-183Y	C RESISTOR	18kΩ 1/4W J
R1436	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	R1960	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J
R1451	QRE141J-392Y	C RESISTOR	3.9kΩ 1/4W J	R1972	QRL029J-220	OMF RESISTOR	22Ω 2W J
R1453	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J	R1974	QRL029J-220	OMF RESISTOR	22Ω 2W J
R1454	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J	△R1977	QRZ9024-R33	FUSIBLE RESISTO	0.33Ω 2W K
R1455	QRE141J-822Y	C RESISTOR	8.2kΩ 1/4W J	R1980	QRE121J-331Y	C RESISTOR	330Ω 1/2W J
R1456	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R1982	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J
R1458	QRE141J-681Y	C RESISTOR	680Ω 1/4W J	R1983	QRE141J-472Y	C RESISTOR	4.7kΩ 1/4W J
R1459	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R1984	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R1460	QRE141J-681Y	C RESISTOR	680Ω 1/4W J	R1985	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R1463	QRE141J-102Y	C RESISTOR	1kΩ 1/4W J	R1986	QRE141J-681Y	C RESISTOR	680Ω 1/4W J
R1505	QRE141J-123Y	C RESISTOR	12kΩ 1/4W J	R1987	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J
R1506	QRE121J-152Y	C RESISTOR	1.5kΩ 1/2W J	R1988	QRE141J-681Y	C RESISTOR	680Ω 1/4W J
R1507	QRG029J-181	OMF RESISTOR	180Ω 2W J	R1989	QRE141J-680Y	C RESISTOR	68Ω 1/4W J
R1508	QRG029J-181	OMF RESISTOR	180Ω 2W J	R1990	QRE141J-680Y	C RESISTOR	68Ω 1/4W J
R1509	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	VR1901	QVP0087-102Z	TRIM RESISTOR	B1 ADJ 1kΩ 0.3W N
R1510	QRE141J-103Y	C RESISTOR	10kΩ 1/4W J	L1551	QQLZ026-260	COIL	26uH ±7%
R1521	QRE121J-181Y	C RESISTOR	180Ω 1/2W J	L1971	QQL26AK-560Z	CHOKE COIL	56uH K
R1524	QRL039J-102	OMF RESISTOR	1kΩ 3W J	L1972	QQL26AK-560Z	CHOKE COIL	56uH K
△R1551	QRZ9017-2R2	FUSI RESISTOR	2.2Ω 1/4W J	L1973	QQL26AK-220Z	CHOKE COIL	22uH K

△Ref No.	Part No.	Part Name	Description	Local
L1974	QQL26AK-560Z	CHOKE COIL	56uH K	
T1501	QQR1032-001	HOR DRIVE TRANS		
△T1901	QQS0257-001	SW TRANSF		
△T1902	QQS0130-001	SW TRANSF		
CN1001	QGB1505J1-25	CONNECTOR	B-B (1-25)	
CN1002	QGB1505J1-25	CONNECTOR	B-B (1-25)	
CN1003	QGBA001K1-04	CONNECTOR	B-B (1-4)	
CN1004	QGBA001K1-04	CONNECTOR	B-B (1-4)	
CN100A	QGF1220C2-19	CONNECTOR	FFC/FPC (1-19)	
CN100S	CHGS0042-0A	S.P WIRE ASSY		
CN100U	QGA2501C5-04Z	CONNECTOR	W-B (1-4)	
CN10E2	QUB190-28FPKT	SIN TWIST WIRE		
CN10HV	QGZ8001C1-04	CONNECTOR	(1-4)	
CN10PW	QGA7901C1-02	CONNECTOR	W-B (1-2)	
CN1DEG	WJJ0466-001A	E-SI C WIRE C-C		
△CP1971	ICP-N10-Y	IC PROTECTOR	400mA	
△CP1972	ICP-N38-Y	IC PROTECTOR	1.5A	
△CP1974	ICP-N50-Y	IC PROTECTOR	2.0A	
△CP1975	QMFZ043-2R0Z-J1	FUSE	2A AC250V	
△CP1977	ICP-N75-Y	IC PROTECTOR	2.7A	
△F1901	QMF51D2-5R0-J1	FUSE	5A AC250V	
H1001	CEHT12N-026PS	HEAT SINK		
H1002	LC31843-001A	HEAT SINK/AL-F/		
H1003	LC32111-001A	HEAT SINK		
H1005	CEHT11B-005QS	HEAT SINK		
H1007	CM42862-00G-H	HEAT SINK ASSY		
K1401	CE42050-001Z	BEADS CORE		
K1402	CE42050-001Z	BEADS CORE		
K1901	CE42050-001Z	BEADS CORE		
K1972	CE41433-001Z	BEADS CORE		
K1973	CE42050-001Z	BEADS CORE		
K1974	CE42050-001Z	BEADS CORE		
△LF1901	QQR0527-002	LINE FILTER		
△LF1902	QQR1217-001	LINE FILTER		
RY1401	CESK024-001	RELAY		
△RY1901	QSK0119-001	RELAY		
△RY1902	QSK0119-001	RELAY		
△TH1901	QAD0132-4R5	W-PTC	4.5Ω	

## SUB DEF P.W. BOARD ASS'Y (FX-2095A-H2)

△Ref No.	Part No.	Part Name	Description	Local
D2522	RG4C-F1	SI DIODE		
D2523	RGP10J-5025-T3	SI DIODE		
D2525	RU30-F1	SI DIODE		
C2453	QEZO470-475	BP E CAPACITOR	4.7uF	
C2520	QFZO197-335	MPP CAPACITOR	3.3uF 250V J	
△C2521	QFZO196-202	MPP CAPACITOR	2000pF 1.5kV H	
△C2522	QFZO196-123	MPP CAPACITOR	0.012uF 1.5kV H	
△C2523	QFP32GJ-153	PP CAPACITOR	0.015uF 400V J	
C2525	QETN2CM-475Z	E CAPACITOR	4.7uF 160V M	
△C2528	QFZO196-252	MPP CAPACITOR	2500pF 1.5kV H	
R2461	QRG039J-680	OMF RESISTOR	68Ω 3W J	
R2462	QRG039J-680	OMF RESISTOR	68Ω 3W J	
R2522	QRG029J-103	OMF RESISTOR	10kΩ 2W J	
R2525	QRX029J-8R2	MF RESISTOR	8.2Ω 2W J	
R2526	QRG029J-102	OMF RESISTOR	1kΩ 2W J	
△R2572	QRA14CF-1582Y	CMF RESISTOR	15.8kΩ 1/4W F	
△R2573	QRA14CF-5101Y	CMF RESISTOR	5.1kΩ 1/4W F	
L2461	QQR1451-001	CHOKE COIL		
L2521	QQR1165-005	LINEARITY COIL		
L2552	QQL50AM-8R2Z	CHOKE COIL	8.2uH M	
CN2003	QGBA001J1-04	CONNECTOR	B-B (1-4)	
CN2004	QGBA001J1-04	CONNECTOR	B-B (1-4)	
CN20S1	QGA2501F1-06	CONNECTOR	W-B (1-6)	

## CRT SOCKET P.W. BOARD ASS'Y (FX-3075A-H2)

△Ref No.	Part No.	Part Name	Description	Local
Q3301	2SC4544-LB	POW TRANSISTOR		
Q3302	2SC4544-LB	POW TRANSISTOR		
Q3303	2SC4544-LB	POW TRANSISTOR		
Q3304	2SC3311A/QR/-T	TRANSISTOR		

△Ref No.	Part No.	Part Name	Description	Local
Q3305	2SC3311A/QR/-T	TRANSISTOR		
Q3306	2SC3311A/QR/-T	TRANSISTOR		
Q3307	2SC3311A/QR/-T	TRANSISTOR		
D3301	RGP10J-5025-T3	SI DIODE		
C3301	QETN1CM-107Z	E CAPACITOR	100uF 16V M	
C3303	QFLC1HJ-103Z	M CAPACITOR	0.01uF 50V J	
C3305	QEHQ2CM-336	E CAPACITOR	33uF 160V M	
C3306	QEHQ2CM-336	E CAPACITOR	33uF 160V M	
C3307	QCZ0121-102	C CAPACITOR	1000pF 3KV	
C3308	QCS31HJ-330Z	C CAPACITOR	33pF 50V J	
C3309	QCS31HJ-331Z	C CAPACITOR	330pF 50V J	
C3310	QCS31HJ-330Z	C CAPACITOR	33pF 50V J	
C3311	QCS31HJ-271Z	C CAPACITOR	270pF 50V J	
C3312	QCS31HJ-330Z	C CAPACITOR	33pF 50V J	
C3313	QCS31HJ-271Z	C CAPACITOR	270pF 50V J	
C3314	QCS31HJ-221Z	C CAPACITOR	220pF 50V J	
C3315	QCS31HJ-221Z	C CAPACITOR	220pF 50V J	
C3316	QCS31HJ-221Z	C CAPACITOR	220pF 50V J	
C3318	QCS31HJ-330Z	C CAPACITOR	33pF 50V J	
R3302	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3303	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3304	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3305	QRZ0111-102	C RESISTOR	1kΩ 1/2W K	
R3306	QRL029J-153	OMF RESISTOR	15kΩ 2W J	
R3307	QRL029J-153	OMF RESISTOR	15kΩ 2W J	
R3308	QRZ0111-102	C RESISTOR	1kΩ 1/2W K	
R3309	QRL029J-153	OMF RESISTOR	15kΩ 2W J	
R3310	QRL029J-153	OMF RESISTOR	15kΩ 2W J	
R3311	QRZ0111-102	C RESISTOR	1kΩ 1/2W K	
R3312	QRL029J-153	OMF RESISTOR	15kΩ 2W J	
R3313	QRL029J-153	OMF RESISTOR	15kΩ 2W J	
R3315	QRZ0107-105Z	C RESISTOR	1MΩ 1/2W K	
R3316	QRZ0111-102	C RESISTOR	1kΩ 1/2W K	
R3317	QRZ0111-474	C RESISTOR	470kΩ 1/2W K	
R3318	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3319	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3320	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3321	QRE141J-121Y	C RESISTOR	120Ω 1/4W J	
R3322	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3323	QRE141J-680Y	C RESISTOR	68Ω 1/4W J	
R3324	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J	
R3325	QRE141J-121Y	C RESISTOR	120Ω 1/4W J	
R3326	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3327	QRE141J-820Y	C RESISTOR	82Ω 1/4W J	
R3328	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J	
R3329	QRE141J-121Y	C RESISTOR	120Ω 1/4W J	
R3330	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3331	QRE141J-680Y	C RESISTOR	68Ω 1/4W J	
R3332	QRE141J-152Y	C RESISTOR	1.5kΩ 1/4W J	
R3333	QRE141J-221Y	C RESISTOR	220Ω 1/4W J	
R3334	QRE141J-221Y	C RESISTOR	220Ω 1/4W J	
R3337	QRE141J-101Y	C RESISTOR	100Ω 1/4W J	
R3338	QRE141J-123Y	C RESISTOR	12kΩ 1/4W J	
R3339	QRE141J-123Y	C RESISTOR	12kΩ 1/4W J	
R3340	QRE141J-123Y	C RESISTOR	12kΩ 1/4W J	
R3341	QRE141J-224Y	C RESISTOR	220kΩ 1/4W J	
L3301	QQL244J-151Z	PEAKING COIL	150uH J	
L3302	QQL244J-151Z	PEAKING COIL	150uH J	
L3303	QQL244J-151Z	PEAKING COIL	150uH J	
CN300T	QGA2501C1-10	CONNECTOR	W-B (1-10)	
CN300U	QJB003-042014	SIN ID C-B WIRE		
CN30E1	CE41507-001P	LV CONNECTOR		
CN30SC	QGZ0017C1-01Z	CONNECTOR	(1-1)	
△SK3001	CE42446-001	CRT SOCKET		

## FRONT CONTROL P.W. BOARD ASS'Y (FX-4092A-H2)

△Ref No.	Part No.	Part Name	Description	Local
D4801	GL3ED8	L E D 2(G+R)	POWER	
D4802	SLR-342MG3F	LED	INPUT_D	
D4803	SLR-342MG3F	LED	INPUT_C	
D4804	SLR-342MG3F	LED	INPUT_B	
D4805	SLR-342MG3F	LED	INPUT_A	
D4806	SLR-342MG3F	LED	ASPECT	
D4807	SLR-342MG3F	LED	BLUE CHECK	
D4808	SLR-342MG3F	LED	COLOR OFF	
D4809	SLR-342MG3F	LED	UNDER SCAN	



△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
R4801	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	Q6509	2SC3928A/QR/-X	TRANSISTOR	
R4802	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	Q6510	DTC124EKA-X	DIGI TRANSISTOR	
R4803	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	Q6511	2SC3928A/QR/-X	TRANSISTOR	
R4804	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	Q6512	DTC124EKA-X	DIGI TRANSISTOR	
R4805	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	Q6513	DTC124EKA-X	DIGI TRANSISTOR	
R4806	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	Q6514	DTC124EKA-X	DIGI TRANSISTOR	
R4807	QRE141J-562Y	C RESISTOR	5.6kΩ 1/4W J	Q6515	2SC3928A/QR/-X	TRANSISTOR	
R4808	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	Q6516	2SC3928A/QR/-X	TRANSISTOR	
R4809	QRE141J-332Y	C RESISTOR	3.3kΩ 1/4W J	Q6601	2SC3928A/QR/-X	TRANSISTOR	
CN400A	CHC101N-19S-L	FFC CONNECTOR		Q6603	2SC3928A/QR/-X	TRANSISTOR	
S4801	QSW0619-003Z	TACT SWITCH	POWER	Q6605	2SC3928A/QR/-X	TRANSISTOR	
S4802	QSW0619-003Z	TACT SWITCH	INPUT_D	Q6607	2SC3928A/QR/-X	TRANSISTOR	
S4803	QSW0619-003Z	TACT SWITCH	INPUT_C	Q6609	2SC3928A/QR/-X	TRANSISTOR	
S4804	QSW0619-003Z	TACT SWITCH	INPUT_B	Q6611	2SC3928A/QR/-X	TRANSISTOR	
S4805	QSW0619-003Z	TACT SWITCH	INPUT_A	Q6612	DTC124EKA-X	DIGI TRANSISTOR	
S4806	QSW0619-003Z	TACT SWITCH	ASPECT	Q6701	DTA124EKA-X	DIGI TRANSISTOR	
S4807	QSW0619-003Z	TACT SWITCH	BLUE CHECK	Q6702	DTA124EKA-X	DIGI TRANSISTOR	
S4808	QSW0619-003Z	TACT SWITCH	COLOR OFF	Q6703	DTA124EKA-X	DIGI TRANSISTOR	
S4809	QSW0619-003Z	TACT SWITCH	UNDER SCAN	Q6704	DTA124EKA-X	DIGI TRANSISTOR	
S4810	QSW0619-003Z	TACT SWITCH	MENU	Q6705	DTA124EKA-X	DIGI TRANSISTOR	
S4811	QSW0619-003Z	TACT SWITCH	UP	Q6706	DTA124EKA-X	DIGI TRANSISTOR	
S4812	QSW0619-003Z	TACT SWITCH	DOWN	Q6707	DTA124EKA-X	DIGI TRANSISTOR	
S4813	QSW0619-003Z	TACT SWITCH	CONT/BRIGHT	Q6708	DTA124EKA-X	DIGI TRANSISTOR	
S4814	QSW0619-003Z	TACT SWITCH	CHROMA/PHASE	Q6710	DTA124EKA-X	DIGI TRANSISTOR	
				Q6711	DTA124EKA-X	DIGI TRANSISTOR	

## SIGNAL P.W. BOARD ASS'Y (FX-6143A-H2)

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
IC6001	JLC1562BF-X	IC		Q6801	2SC3928A/QR/-X	TRANSISTOR	
IC6002	MM1311BD	IC		Q6802	2SC3928A/QR/-X	TRANSISTOR	
IC6003	BA10358	IC		Q6803	2SC3928A/QR/-X	TRANSISTOR	
IC6004	LA6515	IC		Q6804	2SA1530A/QR/-X	TRANSISTOR	
IC6101	TC90A49AP	IC		Q6805	2SC3928A/QR/-X	TRANSISTOR	
IC6102	NJM2234M-XE	IC		Q6807	DTC124EKA-X	DIGI TRANSISTOR	
IC6201	TA8772AN	I.C(MONO-ANA)		Q6808	2SC3928A/QR/-X	TRANSISTOR	
IC6501	TA1276AN	IC		Q6809	2SC3928A/QR/-X	TRANSISTOR	
IC6601	CD4053BNS-X	IC		Q6811	2SC3928A/QR/-X	TRANSISTOR	
IC6602	CD4053BNS-X	IC		D6001	MA111-X	SI DIODE	
IC6701	M37207MC-322SP	IC(MCU)		D6002	MA111-X	SI DIODE	
IC6702	AT-24C08-H150CGE	IC	(SERVICE)	D6003	MA111-X	SI DIODE	
IC6703	L78LR05E-MA	IC		D6004	MA111-X	SI DIODE	
IC6801	TC4538BF/N/-XE	IC		D6006	MA111-X	SI DIODE	
IC6802	TC4538BF/N/-XE	IC		D6007	MA111-X	SI DIODE	
IC6803	TC4538BF/N/-XE	IC		D6008	MA111-X	SI DIODE	
IC6901	BA17809T	IC		D6010	MA111-X	SI DIODE	
IC6903	BA17805T	IC		D6011	MA111-X	SI DIODE	
IC6904	AN78L05-T	IC		D6012	MA111-X	SI DIODE	
Q6001	2SC3928A/QR/-X	TRANSISTOR		D6013	MA111-X	SI DIODE	
Q6002	2SC3928A/QR/-X	TRANSISTOR		D6015	MA111-X	SI DIODE	
Q6003	2SC3928A/QR/-X	TRANSISTOR		D6016	MA111-X	SI DIODE	
Q6101	2SC3928A/QR/-X	TRANSISTOR		D6017	MA111-X	SI DIODE	
Q6102	2SC3928A/QR/-X	TRANSISTOR		D6018	MA3091/M/-X	Z DIODE	
Q6103	2SC3928A/QR/-X	TRANSISTOR		D6023	MA111-X	SI DIODE	
Q6104	2SC3928A/QR/-X	TRANSISTOR		D6024	MA111-X	SI DIODE	
Q6105	2SC3928A/QR/-X	TRANSISTOR		D6025	MA111-X	SI DIODE	
Q6106	2SC3928A/QR/-X	TRANSISTOR		D6026	MA111-X	SI DIODE	
Q6107	2SC3928A/QR/-X	TRANSISTOR		D6027	MA111-X	SI DIODE	
Q6108	DTC124EKA-X	DIGI TRANSISTOR		D6028	MA111-X	SI DIODE	
Q6109	2SC3928A/QR/-X	TRANSISTOR		D6029	MA111-X	SI DIODE	
Q6110	2SA1530A/QR/-X	TRANSISTOR		D6030	MA111-X	SI DIODE	
Q6111	2SC3928A/QR/-X	TRANSISTOR		D6031	MA111-X	SI DIODE	
Q6201	2SC3928A/QR/-X	TRANSISTOR		D6032	MA111-X	SI DIODE	
Q6202	2SC3928A/QR/-X	TRANSISTOR		D6033	MA3091/M/-X	Z DIODE	
Q6203	2SC3928A/QR/-X	TRANSISTOR		D6034	MA111-X	SI DIODE	
Q6204	2SC3928A/QR/-X	TRANSISTOR		D6401	MA111-X	SI DIODE	
Q6205	2SC3928A/QR/-X	TRANSISTOR		D6503	MA111-X	SI DIODE	
Q6206	2SC3928A/QR/-X	TRANSISTOR		D6504	MA111-X	SI DIODE	
Q6207	2SC3928A/QR/-X	TRANSISTOR		D6505	MA111-X	SI DIODE	
Q6208	2SC3928A/QR/-X	TRANSISTOR		D6506	MA111-X	SI DIODE	
Q6211	2SC3928A/QR/-X	TRANSISTOR		D6507	MA111-X	SI DIODE	
Q6216	2SC3928A/QR/-X	TRANSISTOR		D6508	MA111-X	SI DIODE	
Q6217	2SC3928A/QR/-X	TRANSISTOR		D6509	MA111-X	SI DIODE	
Q6401	2SC3928A/QR/-X	TRANSISTOR		D6510	MA111-X	SI DIODE	
Q6402	2SA965/OY/-T	TRANSISTOR		D6511	MA111-X	SI DIODE	
Q6501	DTC124EKA-X	DIGI TRANSISTOR		D6512	MA111-X	SI DIODE	
Q6502	2SC3928A/QR/-X	TRANSISTOR		D6513	MA111-X	SI DIODE	
Q6503	2SA1530A/QR/-X	TRANSISTOR		D6514	MA111-X	SI DIODE	
Q6504	2SA1530A/QR/-X	TRANSISTOR		D6515	MA111-X	SI DIODE	
Q6505	2SA1530A/QR/-X	TRANSISTOR		D6516	MA111-X	SI DIODE	
Q6507	2SA1530A/QR/-X	TRANSISTOR		D6517	MA111-X	SI DIODE	
Q6508	DTC124EKA-X	DIGI TRANSISTOR		D6518	MA111-X	SI DIODE	
				D6519	MA111-X	SI DIODE	

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
D6520	MA3068/M-X	Z DIODE		C6136	NDC31HJ-181X	C CAPACITOR	180pF 50V J
D6702	MA111-X	SI DIODE		C6137	NDC31HJ-181X	C CAPACITOR	180pF 50V J
D6703	MA111-X	SI DIODE		C6141	QTNC1CM-106Z	E CAPACITOR	10uF 16V M
D6704	MA111-X	SI DIODE		C6142	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
D6705	MA3051/M-X	Z DIODE		C6143	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
D6706	MA111-X	SI DIODE		C6144	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
D6707	MA111-X	SI DIODE		C6145	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
D6708	MA111-X	SI DIODE		C6202	NDC31HJ-270X	C CAPACITOR	27pF 50V J
D6709	MA3120/M-X	Z DIODE		C6206	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
D6711	MA111-X	SI DIODE		C6207	NCB31HK-222X	C CAPACITOR	2200pF 50V K
D6714	MA111-X	SI DIODE		C6208	NCB31CK-224X	C CAPACITOR	0.22uF 16V K
D6801	MA111-X	SI DIODE		C6209	NDC31HJ-120X	C CAPACITOR	12pF 50V J
D6802	MA111-X	SI DIODE		C6210	NDC31HJ-470X	C CAPACITOR	47pF 50V J
D6803	MA111-X	SI DIODE		C6211	NDC31HJ-470X	C CAPACITOR	47pF 50V J
D6804	MA111-X	SI DIODE		C6212	NDC31HJ-120X	C CAPACITOR	12pF 50V J
C6001	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	C6213	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6002	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6214	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6003	QEHR1HM-475Z	E CAPACITOR	4.7uF 50V M	C6217	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6004	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6218	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6005	QEHR1HM-475Z	E CAPACITOR	4.7uF 50V M	C6221	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6006	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6222	NDC31HJ-101X	C CAPACITOR	100pF 50V J
C6007	QEHR1HM-475Z	E CAPACITOR	4.7uF 50V M	C6223	NCB31AK-474X	C CAPACITOR	0.47uF 10V K
C6008	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6224	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6009	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M	C6225	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6010	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M	C6226	NDC31HJ-101X	C CAPACITOR	100pF 50V J
C6011	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6227	NCB31AK-474X	C CAPACITOR	0.47uF 10V K
C6012	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6228	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6013	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6229	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6014	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6230	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6015	NDC31HJ-151X	C CAPACITOR	150pF 50V J	C6231	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6016	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6232	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6017	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6233	QEHR1HM-105Z	E CAPACITOR	1uF 50V M
C6019	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6234	NCB31AK-105X	C CAPACITOR	1uF 10V K
C6020	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6235	NCB31AK-105X	C CAPACITOR	1uF 10V K
C6021	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6240	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6022	NCB31EK-473X	C CAPACITOR	0.047uF 25V K	C6241	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6023	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6242	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6024	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	C6243	QTNC1CM-106Z	E CAPACITOR	10uF 16V M
C6025	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6244	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6026	QEHR1HM-226Z	E CAPACITOR	22uF 50V M	C6245	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6027	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6249	NDC31HJ-181X	C CAPACITOR	180pF 50V J
C6028	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6253	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6029	NDC31HJ-151X	C CAPACITOR	150pF 50V J	C6258	NDC31HJ-470X	C CAPACITOR	47pF 50V J
C6030	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6259	NDC31HJ-470X	C CAPACITOR	47pF 50V J
C6031	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6260	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6032	NDC31HJ-151X	C CAPACITOR	150pF 50V J	C6401	NDC31HJ-101X	C CAPACITOR	100pF 50V J
C6033	NDC31HJ-181X	C CAPACITOR	180pF 50V J	C6403	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6034	NDC31HJ-181X	C CAPACITOR	180pF 50V J	C6501	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6035	NDC31HJ-181X	C CAPACITOR	180pF 50V J	C6502	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6038	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M	C6503	NCB31HK-223X	C CAPACITOR	0.022uF 50V K
C6041	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6504	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6043	QEHR1HM-336Z	E CAPACITOR	33uF 50V M	C6505	QEHR1CM-477Z	E CAPACITOR	470uF 16V M
C6047	NCB31HK-102X	C CAPACITOR	1000pF 50V K	C6506	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6048	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6507	NCB31HK-103X	C CAPACITOR	0.01uF 50V K
C6049	NDC31HJ-101X	C CAPACITOR	100pF 50V J	C6508	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6050	NDC31HJ-101X	C CAPACITOR	100pF 50V J	C6509	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6051	NDC31HJ-101X	C CAPACITOR	100pF 50V J	C6510	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6052	NDC31HJ-101X	C CAPACITOR	100pF 50V J	C6511	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6053	NDC31HJ-101X	C CAPACITOR	100pF 50V J	C6512	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6054	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	C6513	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6055	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6514	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6101	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	C6515	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6102	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6516	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6103	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6517	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6104	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6518	QEHR1HM-474Z	E CAPACITOR	0.47uF 50V M
C6106	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6519	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6107	QTNC1CM-476Z	E CAPACITOR	47uF 16V M	C6521	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M
C6108	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6522	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6109	QTNC1CM-476Z	E CAPACITOR	47uF 16V M	C6523	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6110	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6524	QEHR1HM-226Z	E CAPACITOR	22uF 50V M
C6111	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6525	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6112	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6526	QEHR1VM-476Z	E CAPACITOR	47uF 35V M
C6113	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6527	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M
C6114	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	C6529	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M
C6115	NDC31HJ-181X	C CAPACITOR	180pF 50V J	C6530	NCB31HK-222X	C CAPACITOR	2200pF 50V K
C6116	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6534	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C6117	NCB31HK-103X	C CAPACITOR	0.01uF 50V K	C6601	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6118	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	C6602	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6119	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	C6603	QTNC1CM-476Z	E CAPACITOR	47uF 16V M
C6120	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	C6604	QTNC1CM-476Z	E CAPACITOR	47uF 16V M
C6122	NDC31HJ-220X	C CAPACITOR	22pF 50V J	C6605	QTNC1CM-476Z	E CAPACITOR	47uF 16V M
C6123	NDC31HJ-5R0X	C CAPACITOR	5pF 50V J	C6702	NDC31HJ-560X	C CAPACITOR	56pF 50V J
C6125	QEHR1HM-106Z	E CAPACITOR	10uF 50V M	C6703	NDC31HJ-680X	C CAPACITOR	68pF 50V J
C6127	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6704	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
C6129	NCB31AK-474X	C CAPACITOR	0.47uF 10V K	C6705	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
C6130	NCB31CK-224X	C CAPACITOR	0.22uF 16V K	C6706	QEHR1CM-227Z	E CAPACITOR	220uF 16V M
				C6707	NCB31CK-104X	C CAPACITOR	0.1uF 16V K

△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
C6708	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6102	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
C6709	QEHR1EM-227Z	E CAPACITOR	220uF 25V M	R6103	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6715	QEHR1HM-225Z	E CAPACITOR	2.2uF 50V M	R6104	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6717	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6105	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
C6718	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6106	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
C6719	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6107	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C6720	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6108	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C6722	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6109	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C6801	NDC31HJ-681X	C CAPACITOR	680pF 50V J	R6110	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J
C6802	NCB31HK-102X	C CAPACITOR	1000pF 50V K	R6111	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J
C6803	NDC31HJ-681X	C CAPACITOR	680pF 50V J	R6112	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
C6804	NCB31HK-102X	C CAPACITOR	1000pF 50V K	R6113	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J
C6805	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6114	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6806	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	R6115	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J
C6809	NDC31HJ-331X	C CAPACITOR	330pF 50V J	R6116	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
C6810	NCB31HK-102X	C CAPACITOR	1000pF 50V K	R6118	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
C6811	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6119	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6812	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6120	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6813	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6121	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6814	NDC31HJ-221X	C CAPACITOR	220pF 50V J	R6122	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
C6901	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6123	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
C6902	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	R6124	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
C6903	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	R6125	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
C6904	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6126	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
C6905	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6129	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
C6906	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	R6130	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
C6909	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6131	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
C6910	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	R6132	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J
C6911	QEHR1CM-107Z	E CAPACITOR	100uF 16V M	R6133	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
C6912	NCB31CK-104X	C CAPACITOR	0.1uF 16V K	R6134	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6001	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6135	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J
R6002	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6136	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6003	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6137	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R6004	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6138	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6006	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6140	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R6007	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6141	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6008	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6142	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R6009	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6143	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R6010	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6144	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6011	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6201	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6012	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6202	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6013	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6203	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J
R6014	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6206	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6015	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6207	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6016	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6208	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6017	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6209	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6018	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6210	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J
R6019	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6211	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6020	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6212	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6021	NRSA02F-750X	MG RESISTOR	75Ω 1/10W F	R6213	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6022	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	R6214	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R6023	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R6215	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J
R6024	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6216	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6025	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6217	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J
R6026	NRSA02F-750X	MG RESISTOR	75Ω 1/10W F	R6218	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6027	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	R6221	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R6028	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R6222	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R6029	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6223	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6030	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6224	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6031	NRSA02F-750X	MG RESISTOR	75Ω 1/10W F	R6225	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J
R6032	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	R6226	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6033	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R6232	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R6034	NRSA63J-333X	MG RESISTOR	33kΩ 1/16W J	R6234	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6035	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6238	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J
R6036	NRSA02F-750X	MG RESISTOR	75Ω 1/10W F	R6239	NRSA63J-184X	MG RESISTOR	180kΩ 1/16W J
R6037	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J	R6241	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6039	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6242	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6043	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6244	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R6047	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	R6246	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6048	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6250	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6049	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6256	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R6050	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6259	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R6055	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6260	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6057	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6261	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6063	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6262	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6064	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6265	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6066	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	R6269	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6067	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6271	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6068	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6401	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R6069	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6402	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6070	QRK126J-560X	UNF C RESISTOR	56Ω 1/2W J	R6403	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6071	QRK126J-470X	UNF C RESISTOR	47Ω 1/2W J	R6404	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6072	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R6405	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6073	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6406	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R6074	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6501	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6101	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6502	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
				R6503	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J



△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
R6504	NRSA63J-272X	MG RESISTOR	2.7kΩ 1/16W J	R6717	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6505	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J	R6718	NRSA63J-391X	MG RESISTOR	390Ω 1/16W J
R6506	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6719	NRSA63J-821X	MG RESISTOR	820Ω 1/16W J
R6507	NRSA63J-182X	MG RESISTOR	1.8kΩ 1/16W J	R6720	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6508	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6721	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6509	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6722	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6510	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6723	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6511	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6724	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6514	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6725	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6515	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6726	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6516	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6727	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6517	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6728	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6518	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	R6729	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6519	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6730	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6521	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J	R6731	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6522	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6732	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6523	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	R6733	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6524	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	R6734	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6525	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J	R6735	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6528	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6736	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6529	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6737	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6531	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6738	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6532	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6739	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R6533	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6740	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6534	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R6741	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J
R6535	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6742	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6536	NRSA63J-822X	MG RESISTOR	8.2kΩ 1/16W J	R6743	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6537	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J	R6744	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6540	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6745	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6541	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6746	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6542	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6747	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6543	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6748	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6544	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R6749	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6545	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6750	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6546	NRSA63J-224X	MG RESISTOR	220kΩ 1/16W J	R6751	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6547	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6752	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6548	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6753	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6549	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6754	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6550	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6755	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6553	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J	R6756	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6603	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6757	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6604	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R6758	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6605	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6759	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6606	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R6760	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6607	NRSA63J-122X	MG RESISTOR	1.2kΩ 1/16W J	R6761	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6608	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6762	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6612	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R6763	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6613	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R6764	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6614	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R6765	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6615	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6766	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6616	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6767	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J
R6619	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J	R6768	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6620	NRSA63J-123X	MG RESISTOR	12kΩ 1/16W J	R6769	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6621	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6770	NRSA63J-271X	MG RESISTOR	270Ω 1/16W J
R6622	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	R6771	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6623	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J	R6772	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6624	NRSA63J-105X	MG RESISTOR	1MΩ 1/16W J	R6773	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6627	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	R6774	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6628	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6775	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6629	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6776	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6632	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	R6777	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6633	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6778	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6634	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6779	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6637	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	R6780	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6638	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R6781	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6639	NRSA63J-152X	MG RESISTOR	1.5kΩ 1/16W J	R6782	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
R6643	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6784	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6644	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6785	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6645	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6788	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6646	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6791	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6647	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J	R6792	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6648	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6793	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6701	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6794	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6702	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6796	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
R6703	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6797	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
R6704	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6798	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6705	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6801	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6707	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6802	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6708	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R6803	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
R6709	NRSA63J-682X	MG RESISTOR	6.8kΩ 1/16W J	R6804	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
R6710	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R6805	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6711	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6806	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6712	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R6807	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
R6713	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6808	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J
R6714	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	R6809	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R6715	NRSA63J-221X	MG RESISTOR	220Ω 1/16W J	R6810	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6716	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R6811	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J

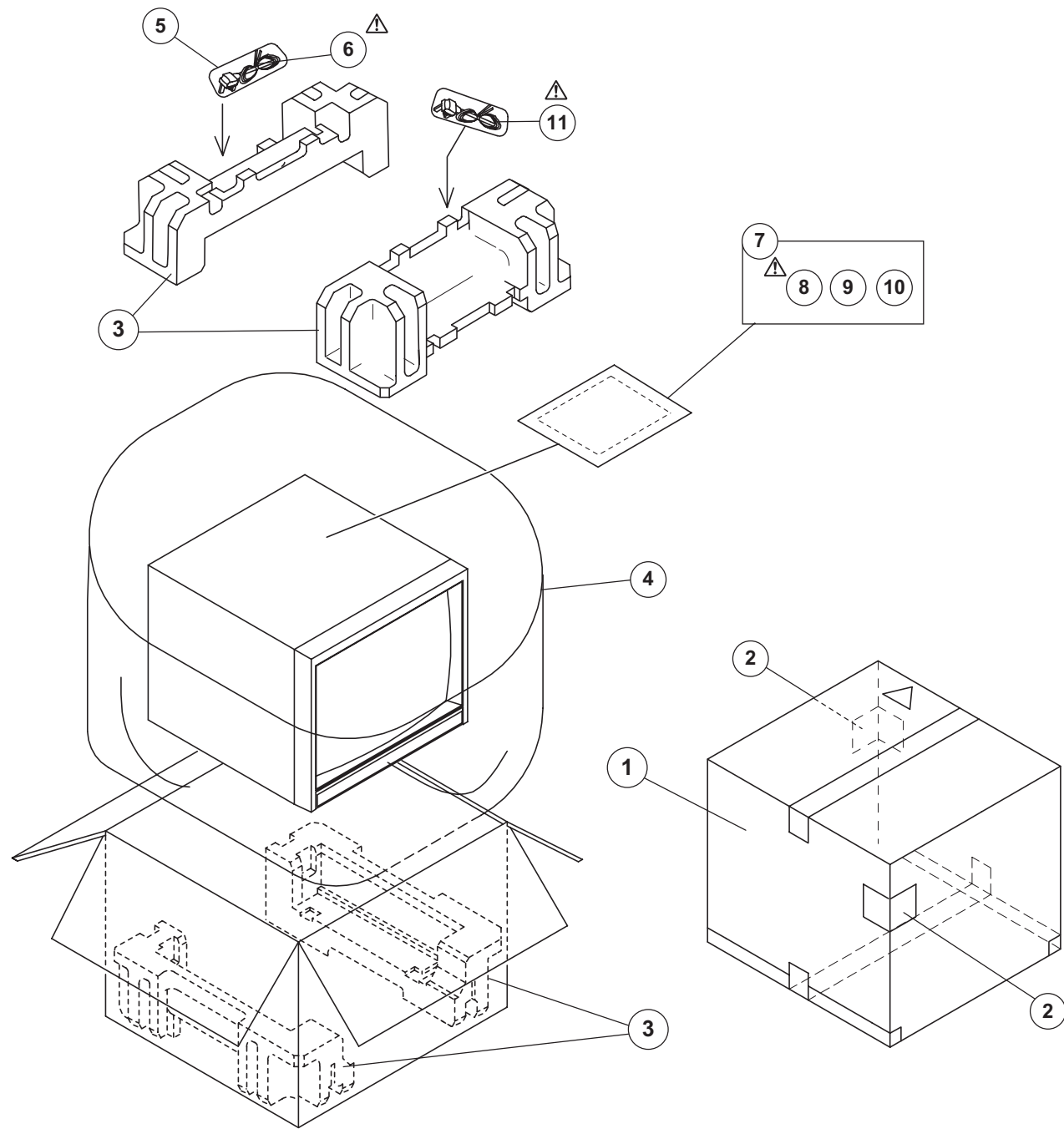


△Ref No.	Part No.	Part Name	Description Local	△Ref No.	Part No.	Part Name	Description Local
R6812	NRVA02D-102X	CMF RESISTOR	1kΩ 1/10W D	C8014	QEHR1CM-107Z	E CAPACITOR	100uF 16V M
R6814	NRVA02D-682X	CMF RESISTOR	6.8kΩ 1/10W D	C8015	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
R6815	NRSA63J-104X	MG RESISTOR	100kΩ 1/16W J	C8016	NCB31CK-104X	C CAPACITOR	0.1uF 16V K
R6816	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	C8017	NDC31HJ-680X	C CAPACITOR	68pF 50V J
R6820	NRVA02D-102X	CMF RESISTOR	1kΩ 1/10W D	C8018	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
R6822	NRVA02D-472X	CMF RESISTOR	4.7kΩ 1/10W D	C8019	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
R6824	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J	C8020	NCB31HK-152X	C CAPACITOR	1500pF 50V K
R6826	NRSA63J-153X	MG RESISTOR	15kΩ 1/16W J	C8021	NDC31HJ-151X	C CAPACITOR	150pF 50V J
R6827	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J				
R6828	NRVA02D-152X	CMF RESISTOR	1.5kΩ 1/10W D	R8001	NRSA63J-563X	MG RESISTOR	56kΩ 1/16W J
R6830	NRVA02D-152X	CMF RESISTOR	1.5kΩ 1/10W D	R8002	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J
R6833	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R8003	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
R6835	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J	R8004	NRSA63J-684X	MG RESISTOR	680kΩ 1/16W J
R6836	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J	R8005	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
R6837	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J	R8006	NRSA63J-181X	MG RESISTOR	180Ω 1/16W J
R6842	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J	R8007	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
				R8008	NRSA63J-273X	MG RESISTOR	27kΩ 1/16W J
L6101	QQL244K-100Z	PEAKING COIL	10uH K	R8009	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
L6102	QQL244K-100Z	PEAKING COIL	10uH K	R8010	NRSA63J-681X	MG RESISTOR	680Ω 1/16W J
L6103	QQL244K-100Z	PEAKING COIL	10uH K	R8011	NRSA63J-331X	MG RESISTOR	330Ω 1/16W J
L6104	QQL244K-100Z	PEAKING COIL	10uH K	R8012	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
L6106	QQL244K-330Z	PEAKING COIL	33uH K	R8013	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
L6701	QQL244K-4R7Z	PEAKING COIL	4.7uH K	R8014	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
L6702	QQL244K-8R2Z	PEAKING COIL	8.2uH K	R8015	NRSA63J-473X	MG RESISTOR	47kΩ 1/16W J
				R8016	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
CN6001	QGB1505K1-25	CONNECTOR	B-B (1-25)	R8017	NRSA63J-471X	MG RESISTOR	470Ω 1/16W J
CN6002	QGB1505K1-25	CONNECTOR	B-B (1-25)	R8018	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
CN6005	QGB1505J1-25	CONNECTOR	B-B (1-25)	R8019	NRSA63J-0R0X	MG RESISTOR	0Ω 1/16W J
CN600R	QGA2501F1-03	CONNECTOR	W-B (1-3)	R8020	NRSA63J-562X	MG RESISTOR	5.6kΩ 1/16W J
CN600T	QJB003-102810	SIN ID C-B WIRE		R8021	NRSA63J-472X	MG RESISTOR	4.7kΩ 1/16W J
CN60S3	QGA2501F1-03	CONNECTOR	W-B (1-3)	R8022	NRSA63J-154X	MG RESISTOR	150kΩ 1/16W J
△CP6901	ICP-N10-Y	IC PROTECTOR	400mA	R8023	NRSA63J-154X	MG RESISTOR	150kΩ 1/16W J
△CP6903	ICP-N10-Y	IC PROTECTOR	400mA	R8024	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
FL6101	CE42697-001	L P F		R8025	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
FL6102	CE42697-001	L P F		R8026	NRSA63J-101X	MG RESISTOR	100Ω 1/16W J
FL6201	CE42697-001	L P F		R8027	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
J6001	QNZ0561-001	D CONNECTOR	REMOTE	R8028	NRSA63J-332X	MG RESISTOR	3.3kΩ 1/16W J
J6002	CEMB021-002	BNC CONNECTOR	VIDEO-A IN/OUT	R8029	NRSA63J-222X	MG RESISTOR	2.2kΩ 1/16W J
J6003	CEMB021-002	BNC CONNECTOR	VIDEO-B IN/OUT	R8030	NRSA63J-223X	MG RESISTOR	22kΩ 1/16W J
J6004	QMD2B04-001	MINI CONNECTOR	Y/C IN	R8031	NRSA63J-103X	MG RESISTOR	10kΩ 1/16W J
J6005	QMD2B04-001	MINI CONNECTOR	Y/C OUT	R8032	NRSA63J-683X	MG RESISTOR	68kΩ 1/16W J
J6006	CEMN036-005	PIN JACK	AUDIO IN/OUT	R8034	NRSA63J-154X	MG RESISTOR	150kΩ 1/16W J
K6002	CE42681-001Y	CHIP BEADS CORE		R8035	NRSA63J-102X	MG RESISTOR	1kΩ 1/16W J
K6003	NQR0357-002X	FERRITE BEADS					
K6101	CE42681-001Y	CHIP BEADS CORE		CN8005	QGB1505K1-25	CONNECTOR	B-B (1-25)
K6103	NQR0357-002X	FERRITE BEADS		CN8006	QGB2514J1-50	CONNECTOR	B-B (1-50)
K6201	CE42681-001Y	CHIP BEADS CORE					
K6202	CE42681-001Y	CHIP BEADS CORE					
X6201	CE40749-001Z	CRYSTAL					
X6202	CE40668-001Z	CRYSTAL					
X6503	CSB503F30-T2	C RESONATOR					
X6701	QAX0667-001Z	C RESONATOR	8.000MHz				

## SLOT P.W. BOARD ASS'Y (FX-8033A-H2)

△Ref No.	Part No.	Part Name	Description Local
IC8001	TC74VHC86F-X	IC	
IC8002	NJM2234M-XE	IC	
Q8001	2SC3928A/QR/-X	TRANSISTOR	
Q8002	2SA1530A/QR/-X	TRANSISTOR	
Q8003	2SA1530A/QR/-X	TRANSISTOR	
Q8004	2SC3928A/QR/-X	TRANSISTOR	
Q8005	2SC3928A/QR/-X	TRANSISTOR	
Q8006	2SC3928A/QR/-X	TRANSISTOR	
Q8007	2SC3928A/QR/-X	TRANSISTOR	
Q8008	2SC3928A/QR/-X	TRANSISTOR	
Q8009	2SC3837K/NP/-X	TRANSISTOR	
D8001	MA111-X	SI DIODE	
D8004	MA111-X	SI DIODE	
D8005	MA111-X	SI DIODE	
C8001	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C8002	QTNC1HM-105Z	E CAPACITOR	1uF 50V M
C8004	QEHR1HM-335Z	E CAPACITOR	3.3uF 50V M
C8005	NCB31EK-473X	C CAPACITOR	0.047uF 25V K
C8006	QTNC1HM-106Z	E CAPACITOR	10uF 50V M
C8007	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C8008	NCB31EK-473X	C CAPACITOR	0.047uF 25V K
C8011	QEHR1HM-106Z	E CAPACITOR	10uF 50V M
C8012	NCB21CK-224X	C CAPACITOR	0.22uF 16V K
C8013	QEHR1CM-107Z	E CAPACITOR	100uF 16V M

PACKING



PACKING PARTS LIST

⚠	Ref.No.	Part No.	Part Name	Description	Local
	1	LC11194-021A-H	PACKING CASE		
	2	LVL-TMH150CGE	CORNER LABEL	(x2)	TM-H150CG/E
	2	LVL-TMH150CGU	CORNER LABEL	(x2)	TM-H150CG/U
	3	LC11760-002A-H	CUSHION ASSY	4pcs in 1set	
	4	CP30967-003-H	POLY BAG		
	5	QPA01203005	POLY BAG	12cm x 30cm	TM-H150CG/U
⚠	6	QMPP170-200-JC	POWER CORD(EK)	Inc.POLY BAG	TM-H150CG/E
	6	QMPE330-244-JC	POWER CORD(EK)	2.44m BLACK	TM-H150CG/U
	7	CP30966-001-H	POLY BAG		
⚠	8	LCT1564-001A-H	INST BOOK	EN/GE/FR/IT/SP/CH	
	9	BT-51010-2	WARRANTY CARD		TM-H150CG/U
	10	BT-51024-1H	SERVICE INF CARD		TM-H150CG/U
⚠	11	QMPL040-200-JC	POWER CORD(EU)	Inc.POLY BAG	TM-H150CG/E



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